XVM-R75

SERVICE MANUAL

Ver 1.1 2002. 08

US Model
Canadian Model
AEP Model
UK Model
E Model

• This set consists of the following units.

MONITOR	XVM-R75
CONNECTION BOX	XA-117
REMOTE COMMANDER	RM-X123

SPECIFICATIONS

Monitor

System: Liquid crystal color display
Display: Motorized flipdown panel
Drive system: TFT-LCD active matrix system
Picture size: 7 inches wide screen (16:9)
154 × 87 mm, 176 mm
(6 1/8 × 3 1/2 in., 7 in.)
(w/h, d)
Picture segment
336,960 (w 1440 × h 234) dots
Power requirements
12 V DC car battery
(negative ground)
Current drain: Approx. 1.5 A
Dimensions: US, Canadian model:
202 × 45 × 243 mm
(8 × 1 13/16 × 9 5/8 in.)
(w/h/d)
EXCEPT US, Canadian model:
230 × 50 × 270 mm
(w/h/d)
Operating temperature
5 °C – 45 °C
(41 °F – 113 °F)
Mass: US, Canadian model:
Approx. 1.2 Kg (2 lb 10 oz)
EXCEPT US, Canadian model:
Approx. 1.3 Kg

Connection box XA-117

A/V Output
Output Impedance: less than 220 Ω
less than 100 pF
Output Level: 0 dBs ±0.3 dB
(0.775 V rms)
(Vol Max)
Video: 75 Ω 1Vp-p
A/V Input × 3
Input Impedance: more than 10 K Ω
less than 1000 pF
Input Level: 0 dBs ± 0.3 dB
(0.775 V rms)
Video: 75 Ω 1 Vp-p
DC output: 7.5 V (max 2 A)
Dimensions: 101 × 42 × 73 mm
(4 × 1 11/16 × 2 7/8 in.)
(w/h/d)
Mass: Approx. 150 g (5 oz)

– Continued on next page –

OVERHEAD MONITOR

9-874-115-02
2002H0400-1
© 2002. 08

Sony Corporation
e Vehicle Company
Published by Sony Engineering Corporation

SONY®

Card remote commander RM-X123

Power requirements
CR2025 lithium battery
Operable range
Approx. 2.5 m (8.22 ft.)
Dimensions 56 × 89 × 7 mm
(2 1/4 × 3 5/8 × 9/32 in.)
(w/h/d)
Mass Approx. 25 g (1 oz)
(including batteries)
Supplied accessories
Connection box XA-117 (1)
Card remote commander RM-X123
(with supplied battery) (1)
Extension cable (5 m) (1)
Power supply cord (1)
DC-DC cord (3 m) (1)
Stereo Mini Plug-to-Plug cable (5 m) (1)
Mounting plate (1)
Screws (4)
Tapping Screws (4)
Cord stopper (1)
Cramper (1)
Operating Instructions (1)

Design and specifications are subject to change without notice.

• Abbreviation
CND : Canadian model

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

TABLE OF CONTENTS

1. GENERAL
Location of Controls 3
Connection diagram 5

2. DISASSEMBLY
2-1. LCD Block Assy 7
2-2. Connectors 8
2-3. Main Board 8
2-4. Motor (M1), Micro SW Board 9
2-5. Display Board 9

3. DIAGRAMS
3-1. Circuit Boards Location 11
3-2. Printed Wiring Board –Main Section (1/2)– 12
3-3. Printed Wiring Boards –Main Section (2/2)– 13
3-4. Schematic Diagram –Main Section (1/2)– 14
3-5. Schematic Diagram –Main Section (2/2)– 15
3-6. Printed Wiring Board –Display Section (1/2)– 16
3-7. Printed Wiring Board –Display Section (2/2)– 17
3-8. Schematic Diagram –Display Section (1/3)– 18
3-9. Schematic Diagram –Display Section (2/3)– 19
3-10. Schematic Diagram –Display Section (3/3)– 20

4. EXPLODED VIEWS
4-1. Cover Section-1 21
4-2. Cover Section-2 22
4-3. LCD Section 23

5. ELECTRICAL PARTS LIST 24

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

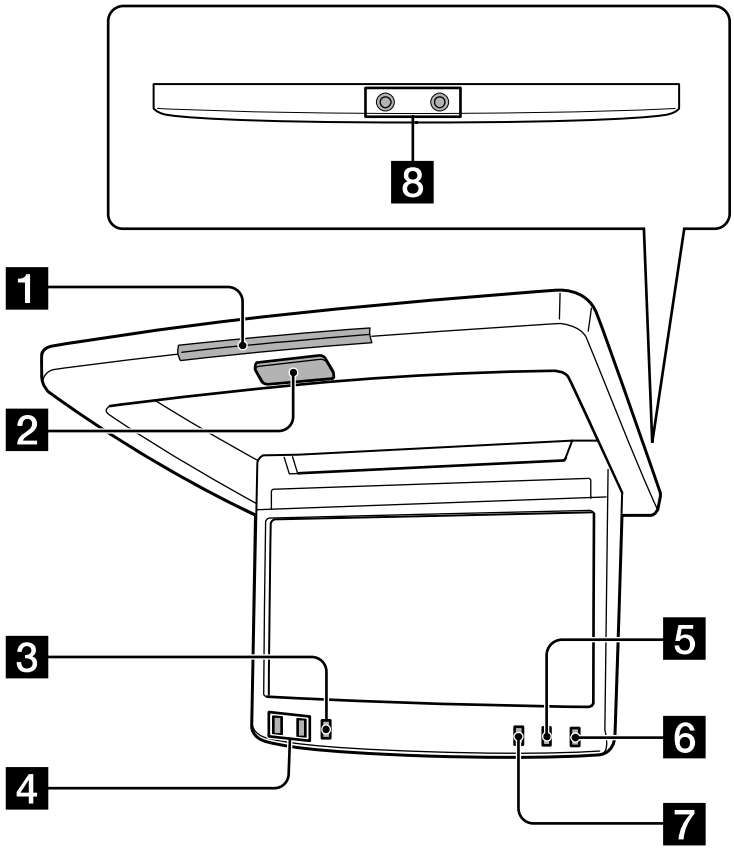
LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of Controls

Monitor



1 Receptor for the card remote commander

2 OPEN/CLOSE button 9
Press to open and close the monitor.

3 MENU button 12, 13
Press to adjust the various display settings.

4 ↑/↓ buttons

5 MODE button 10
Press to change the screen mode.

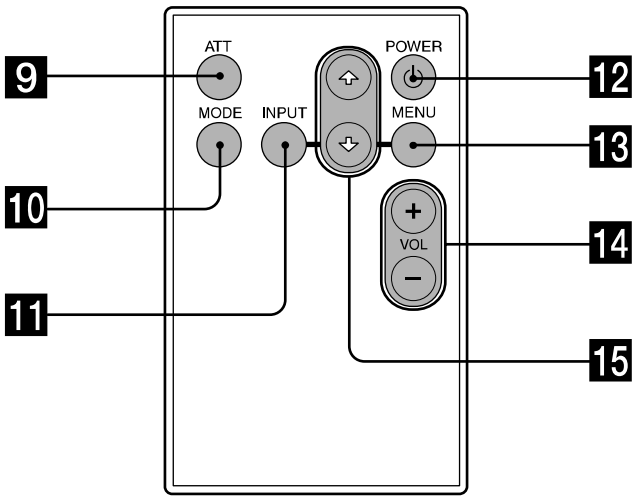
6 INPUT button 11
Press to select the input source.

7 DIMMER button 12, 13
Press to set the dimmer function on and off.

8 Headphone jacks (stereo mini) 14
Connect headphones to these jacks.

continue to next page →

Card remote commander RM-X123



9 ATT button 14
Press to quickly attenuate the volume.

10 MODE button 10
Press to change the screen mode.

11 INPUT button 11
Press to select the input source.

12 POWER button 9

13 MENU button 12, 13
Press to adjust the various display settings.

14 VOL (volume) +/– buttons 14
Press to adjust the volume.

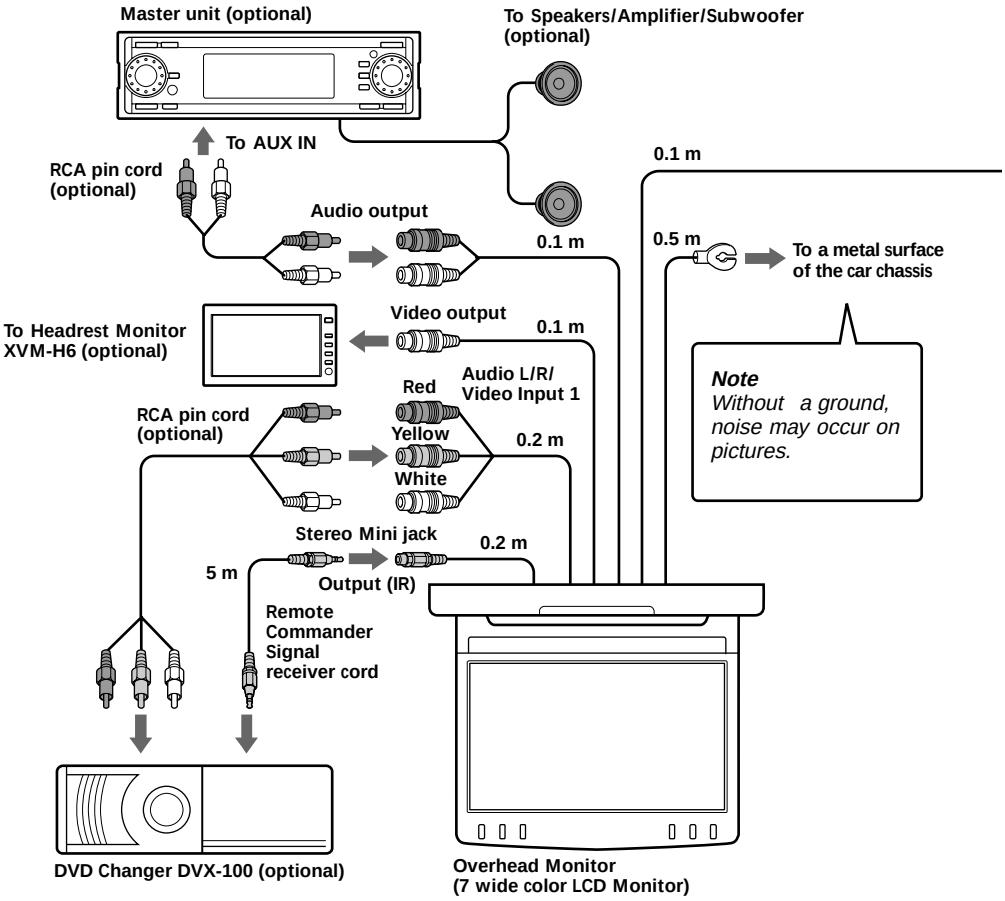
15 ⇧/⇩ buttons

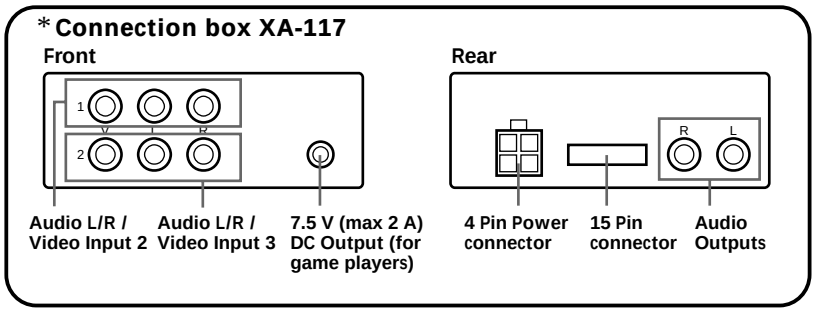
Tip
Refer to "Replacing the lithium battery" for details on how to replace the batteries (page 18).

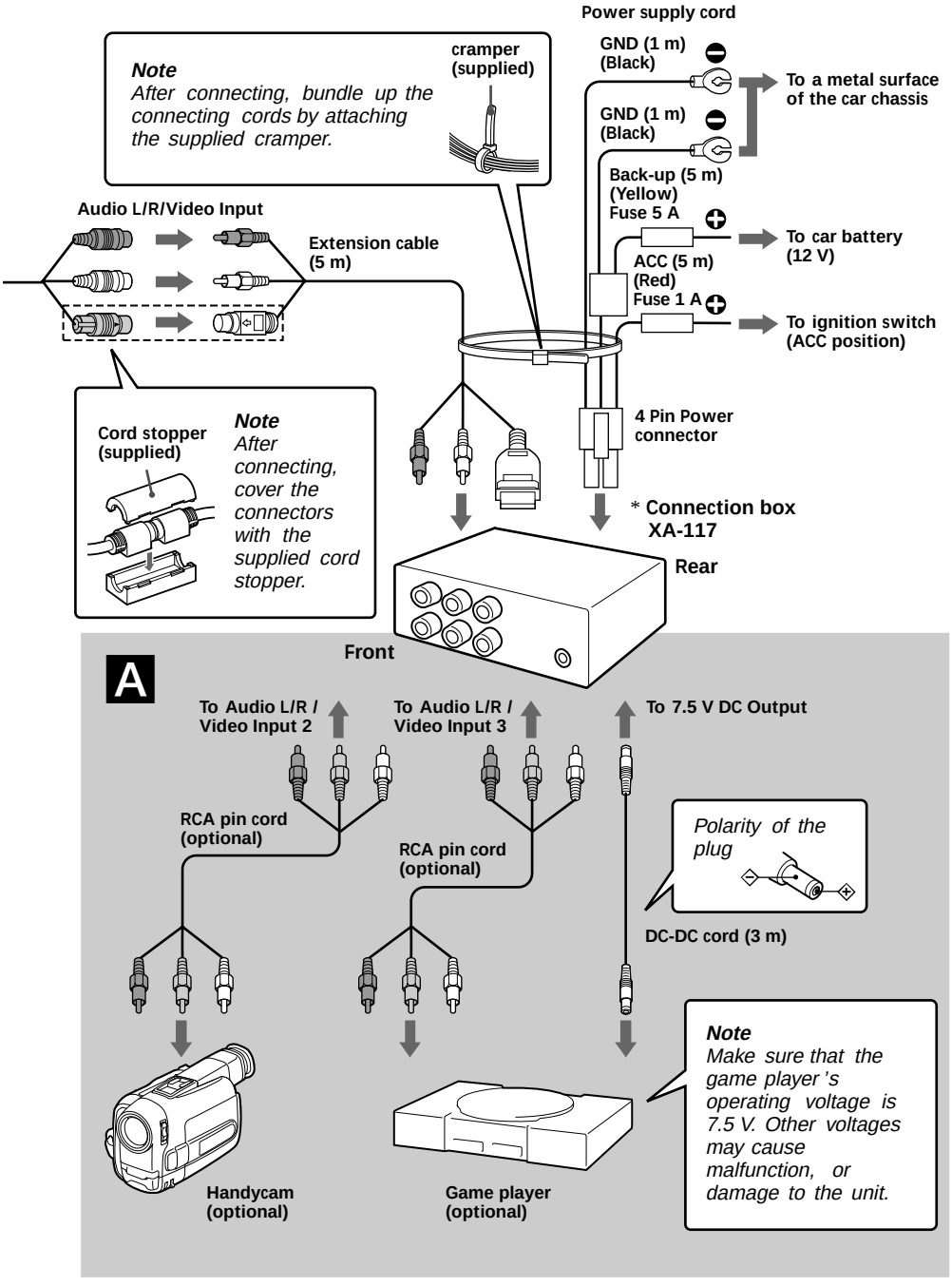
8

Connection diagram

Refer to the connection diagram for the proper connections.
You can make connections shown in **A** area. Please ask a qualified technician for the other connections.

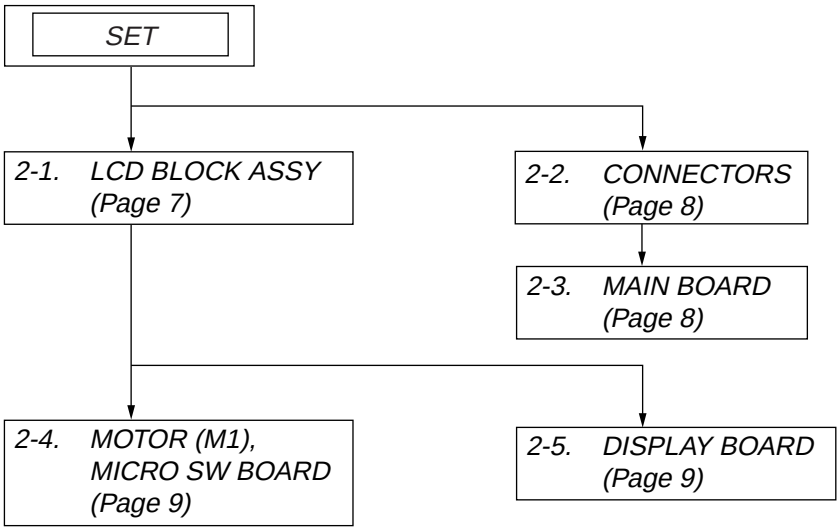





Power supply cord
Note
After connecting, bundle up the connecting cords by attaching the supplied cramper.
cramper (supplied)
GND (1 m) (Black)
To a metal surface of the car chassis
GND (1 m) (Black)
Back-up (5 m) (Yellow)
Fuse 5 A
To car battery (12 V)
ACC (5 m) (Red)
Fuse 1 A
To ignition switch (ACC position)
Audio L/R/Video Input
Extension cable (5 m)
Cord stopper (supplied)
Note
After connecting, cover the connectors with the supplied cord stopper.
4 Pin Power connector
* Connection box XA-117
Rear
Front
A
To Audio L/R / Video Input 2
To Audio L/R / Video Input 3
To 7.5 V DC Output
RCA pin cord (optional)
RCA pin cord (optional)
Polarity of the plug
DC-DC cord (3 m)
Note
Make sure that the game player's operating voltage is 7.5 V. Other voltages may cause malfunction, or damage to the unit.
Handycam (optional)
Game player (optional)

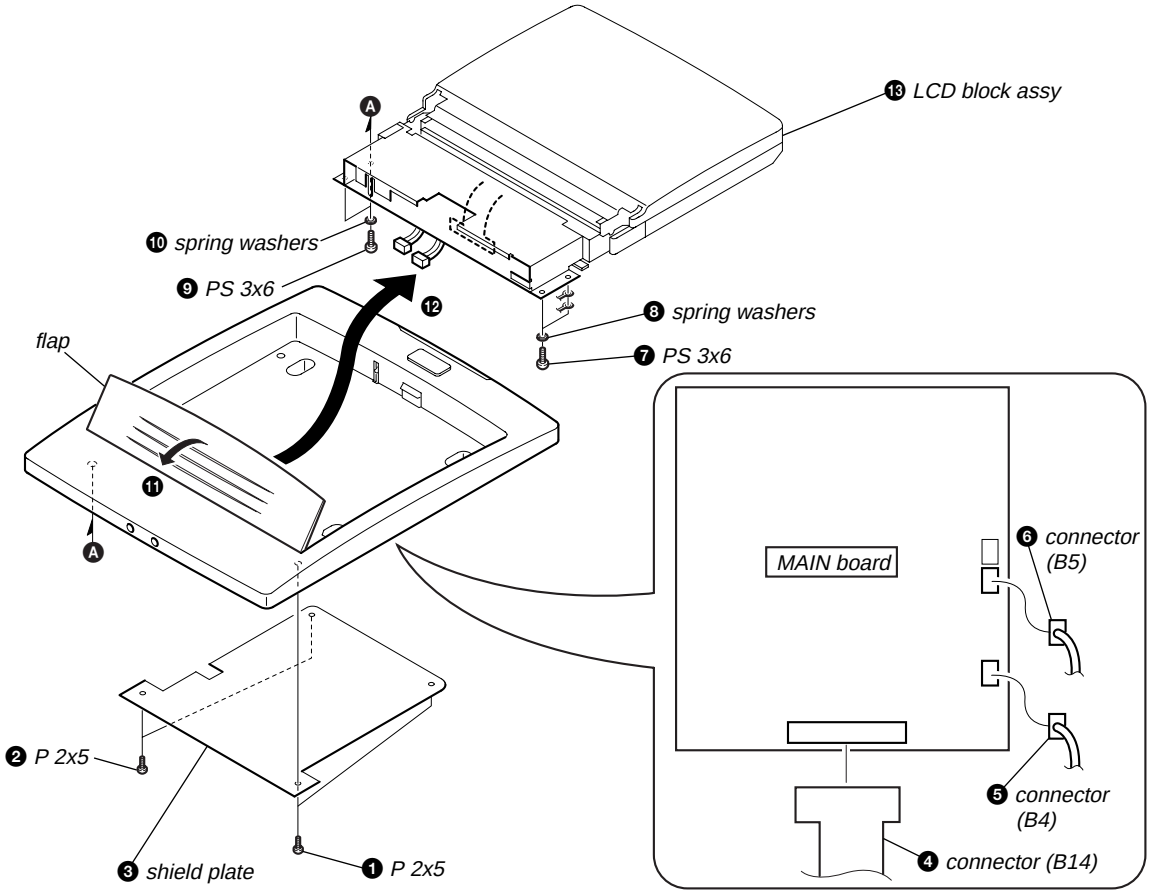
SECTION 2
DISASSEMBLY

Note : This set can be disassemble according to the following sequence.

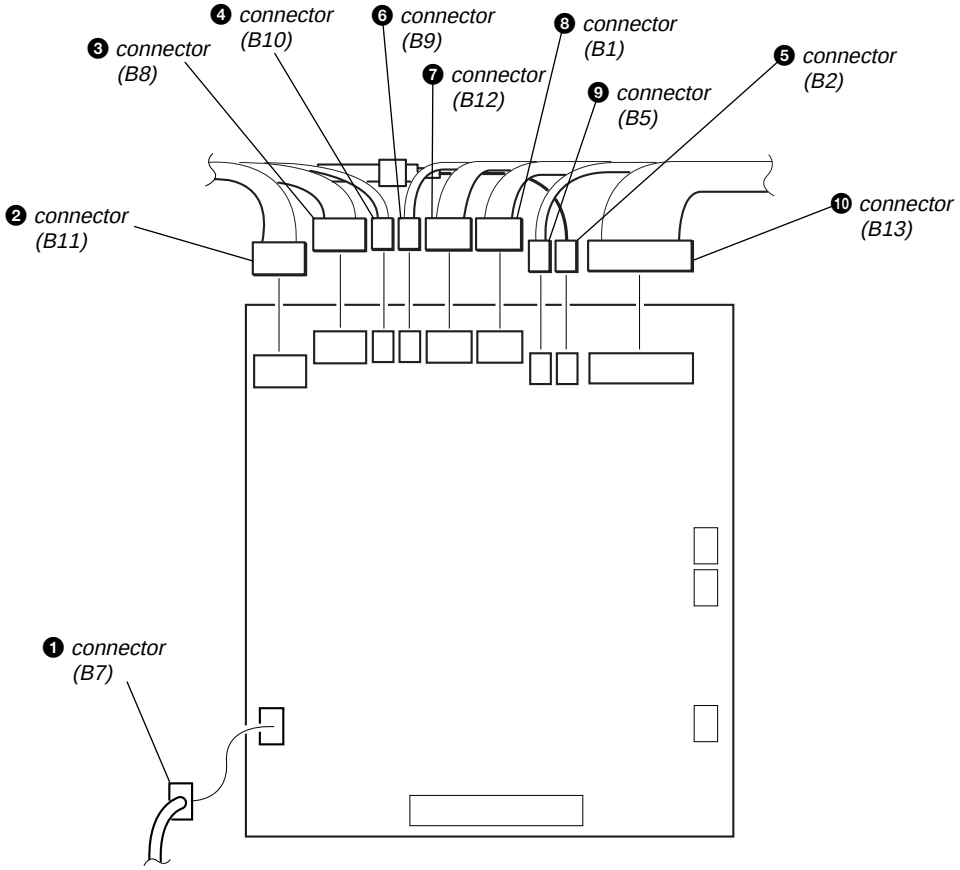

SET
2-1. LCD BLOCK ASSY (Page 7)
2-2. CONNECTORS (Page 8)
2-3. MAIN BOARD (Page 8)
2-4. MOTOR (M1), MICRO SW BOARD (Page 9)
2-5. DISPLAY BOARD (Page 9)

Note : Follow the disassembly procedure in the numerical order given.

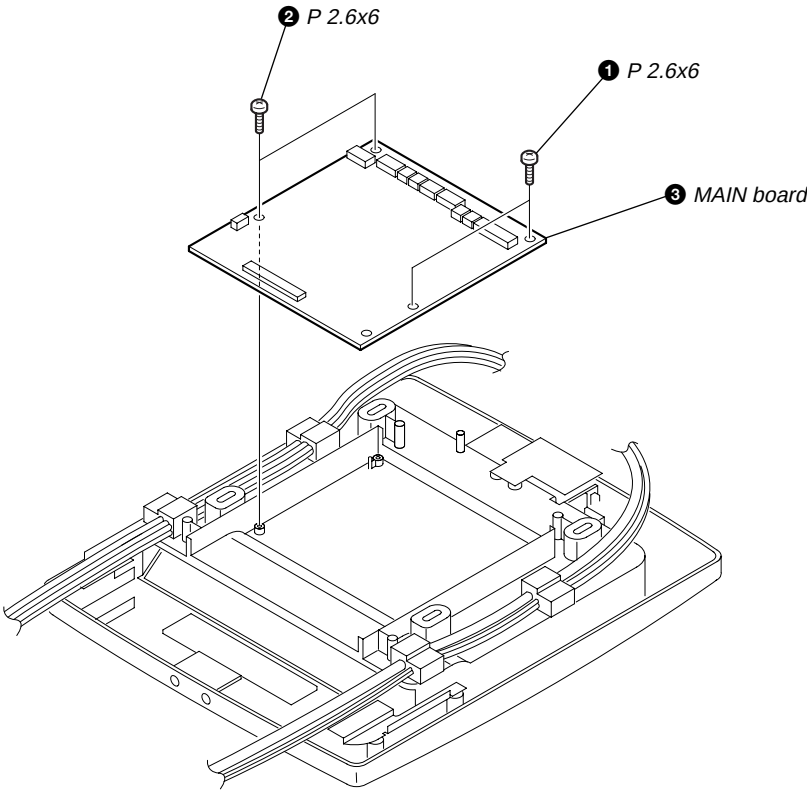
2-1. LCD BLOCK ASSY



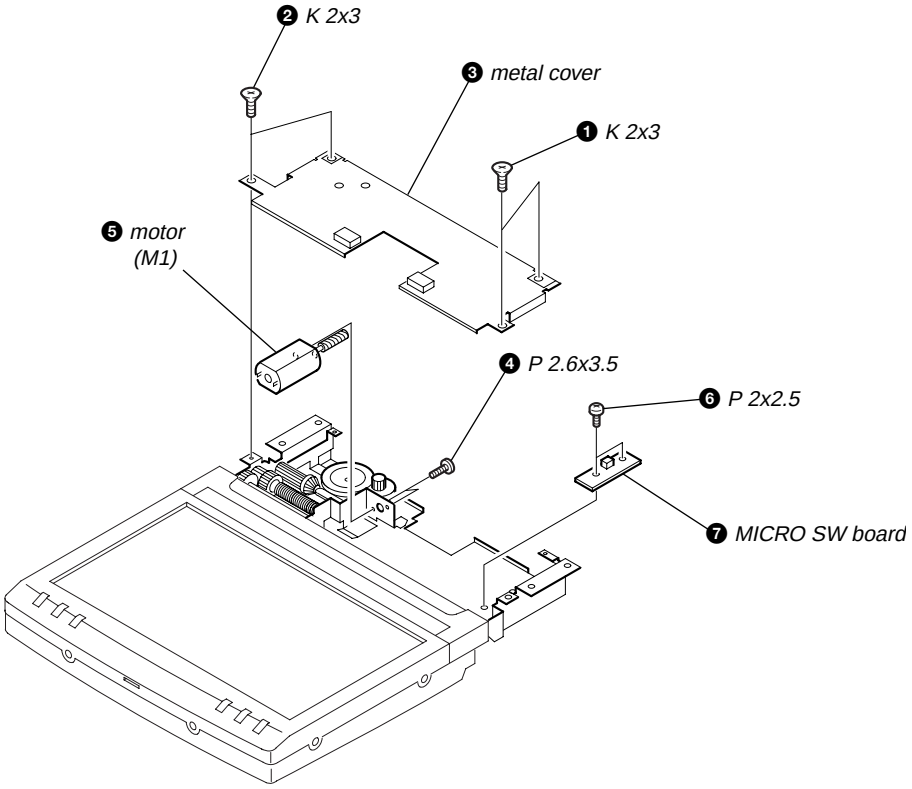
2-2. CONNECTORS



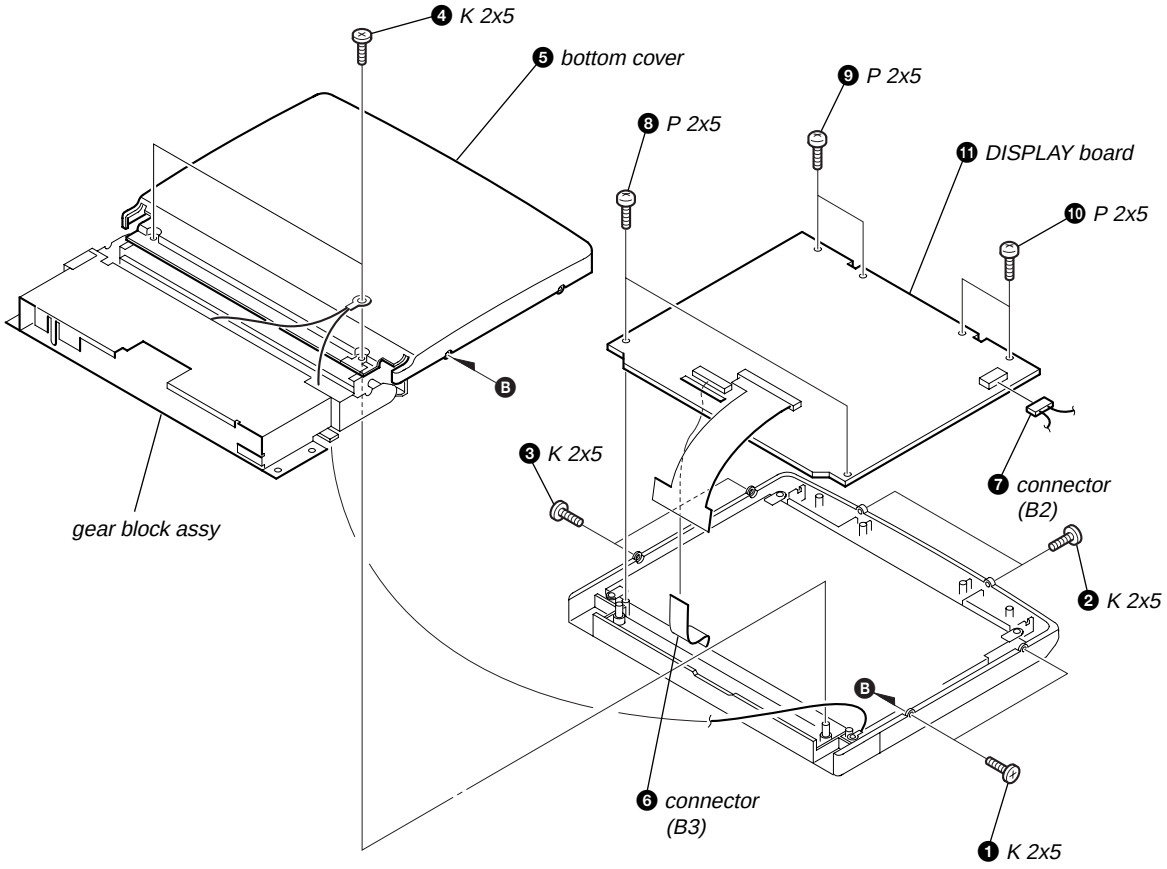
2-3. MAIN BOARD



2-4. MOTOR (M1), MICRO SW BOARD



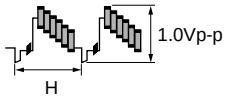
2-5. DISPLAY BOARD



SECTION 3
DIAGRAMS

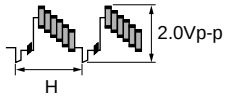
• Waveforms (MAIN Board)

1 0.5V/DIV 20µsec/DIV



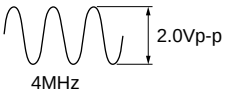
U16 ③ (VIN2)

2 1V/DIV 20µsec/DIV



U16 ⑦ (VOUT)

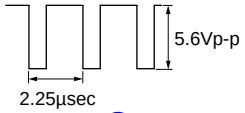
3 1V/DIV 0.2µsec/DIV



U505 ⑮ (OSC2/CLKOUT)

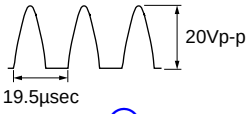
• Waveforms (DISPLAY Board)

1 2V/DIV 1µsec/DIV



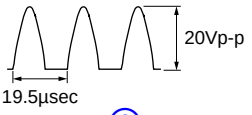
Q38 Ⓒ

2 10V/DIV 5µsec/DIV



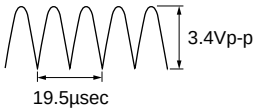
Q35 Ⓒ

3 10V/DIV 5µsec/DIV



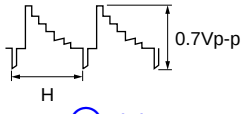
Q36 Ⓒ

4 1V/DIV 5µsec/DIV



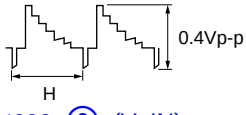
U17 ⑯ (NON-INV INPUT)

5 0.5V/DIV 20µsec/DIV



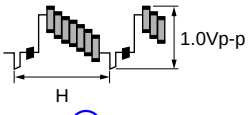
U1 ⑭ (X)

6 0.2V/DIV 20µsec/DIV



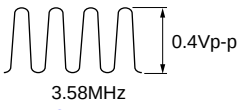
U600 ③ (V_IN)

7 0.5V/DIV 20µsec/DIV



U600 ⑤ (C_IN)

8 0.2V/DIV 0.2µsec/DIV

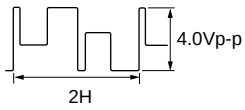


U600 ⑯ (VCO_IN)

9 2V/DIV 20µsec/DIV

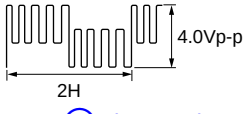
U600 ⑲ (R_OUT)

10 2V/DIV 20µsec/DIV



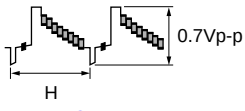
U600 ㉑ (G_OUT)

11 2V/DIV 20µsec/DIV



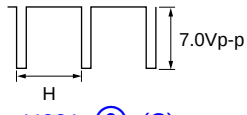
U600 ㉔ (B_OUT)

12 0.2V/DIV 20µsec/DIV



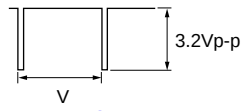
U600 ㊱ (SYN_S)

13 5V/DIV 20µsec/DIV



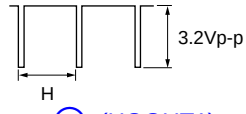
U601 ⑨ (C)

14 1V/DIV 2msec/DIV



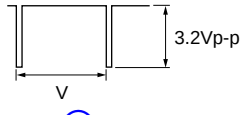
U705 ㊶ (VIH)

15 1V/DIV 20µsec/DIV



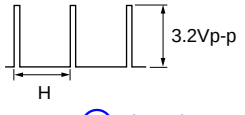
U705 ㊻ (HOOUT1)

16 1V/DIV 2msec/DIV



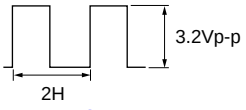
U705 ㊽ (VSYNC)

17 1V/DIV 20µsec/DIV



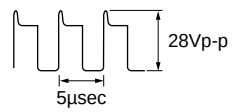
U705 ㊶ (BLK)

18 1V/DIV 20µsec/DIV



U705 ㊸ (POL2)

19 10V/DIV 2µsec/DIV



Q301 Ⓒ

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

for schematic diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : panel designation.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

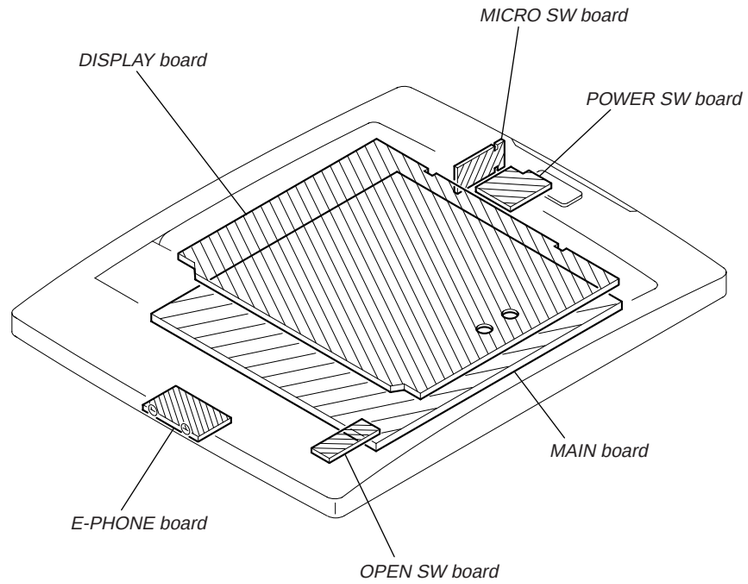
- ▬▬ : B+ Line.
- ▬ ▬ ▬ : B– Line.
- ▭ : adjustment for repair.
- B13 of XVM-R75 is connected to Connection Box with a monitor cable.
  Power voltage is dc 14.4 V from ACC cord of the Connection Box and fed with regulated dc power supply.
- B13 of XVM-R75 is connected to Connection Box with a monitor cable.
  Voltage and waveforms are measured at input the color bar signal from INPUT 1 VIDEO (B11) jack of the Connection Box.
- Voltages are taken with a VOM (Input impedance 10 MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : VIDEO
  ⇨ : AUDIO
- Abbreviation
  CND : Canadian model.

for printed wiring boards:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ▬ : Pattern from the side which enables seeing.

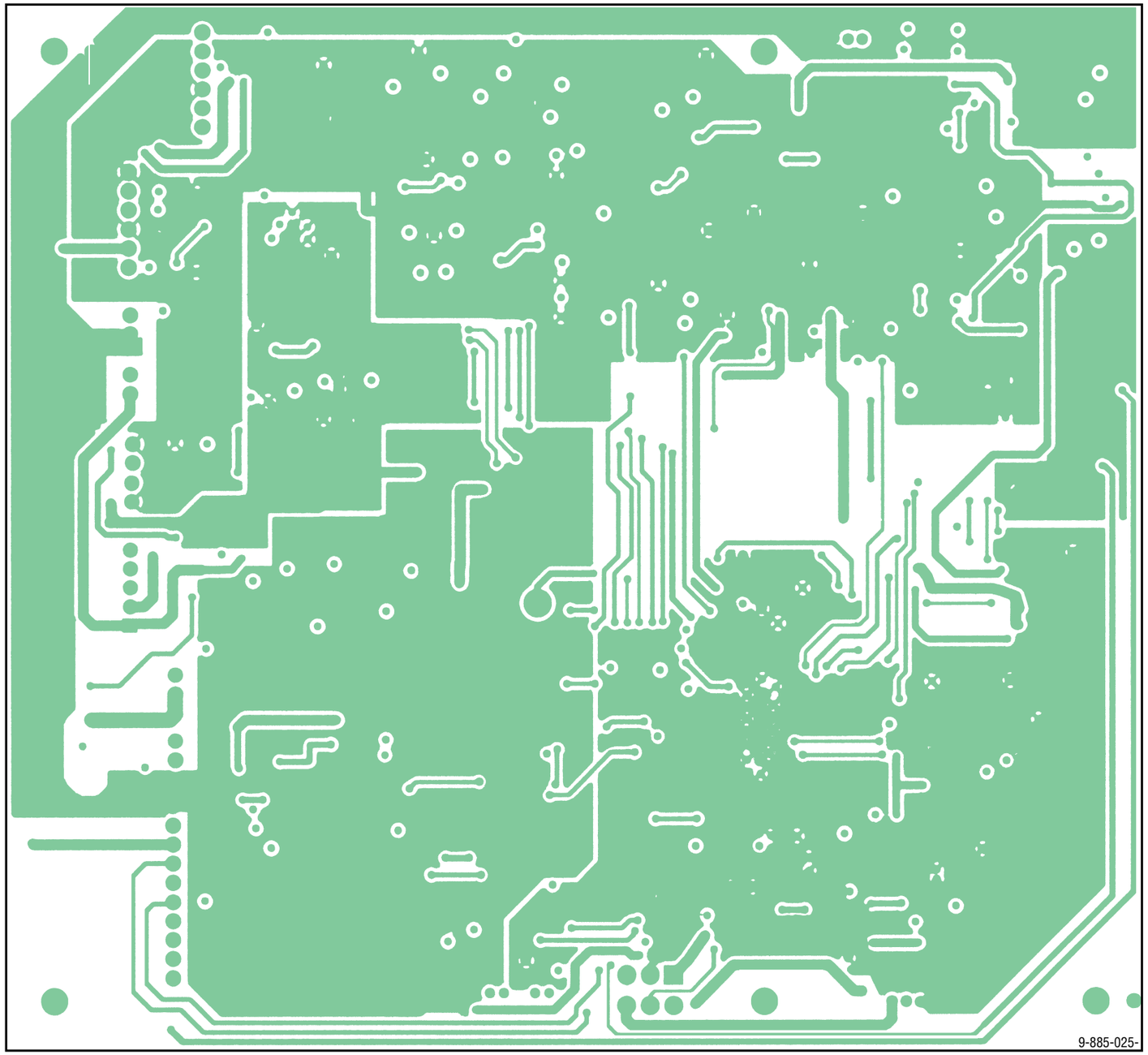
Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

3-1. CIRCUIT BOARDS LOCATION



3-2. PRINTED WIRING BOARD — MAIN SECTION (1/2) — • Refer to page 11 for Circuit Boards Location and Common Note on Printed Wiring Boards.

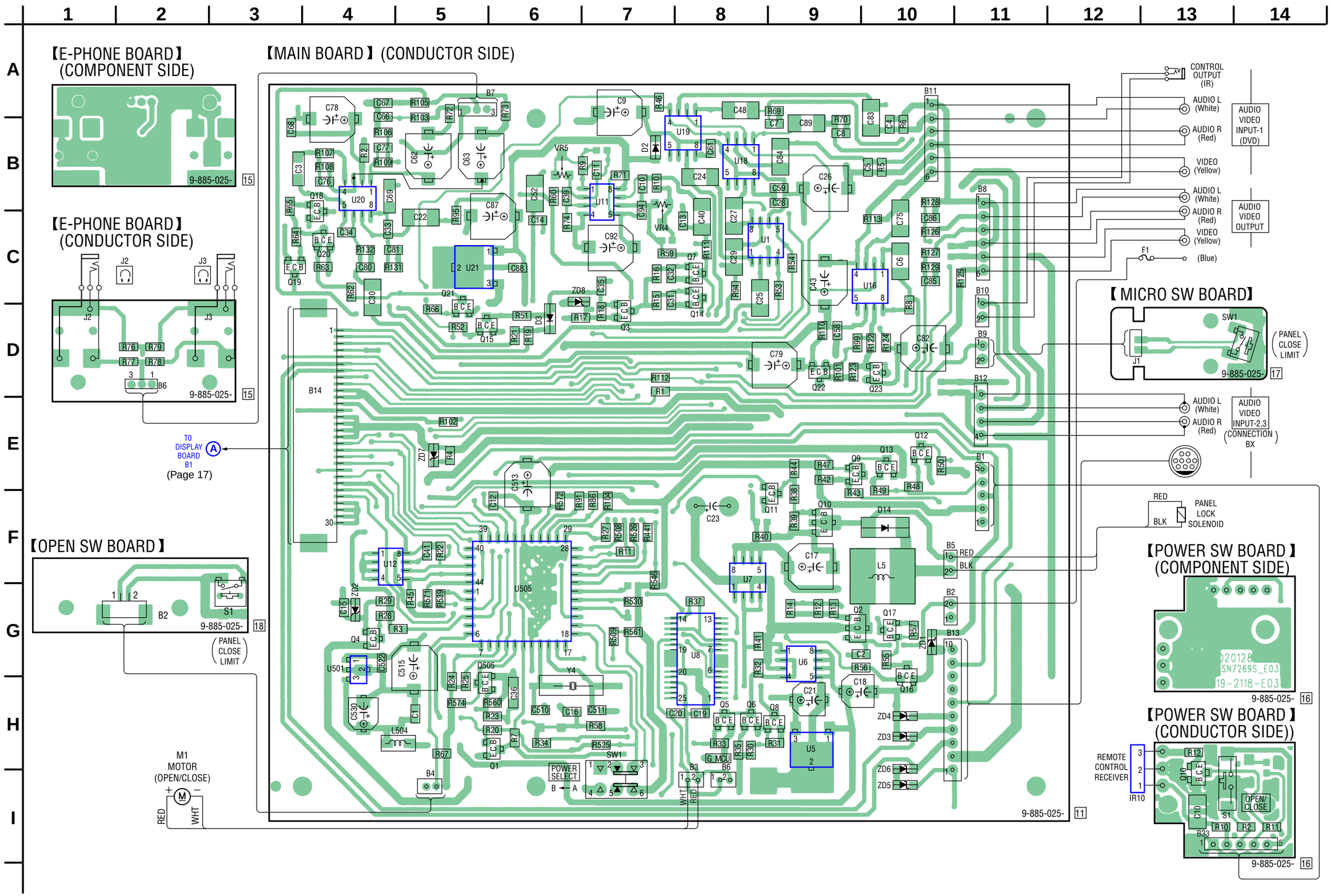
【MAIN BOARD】(COMPONENT SIDE)



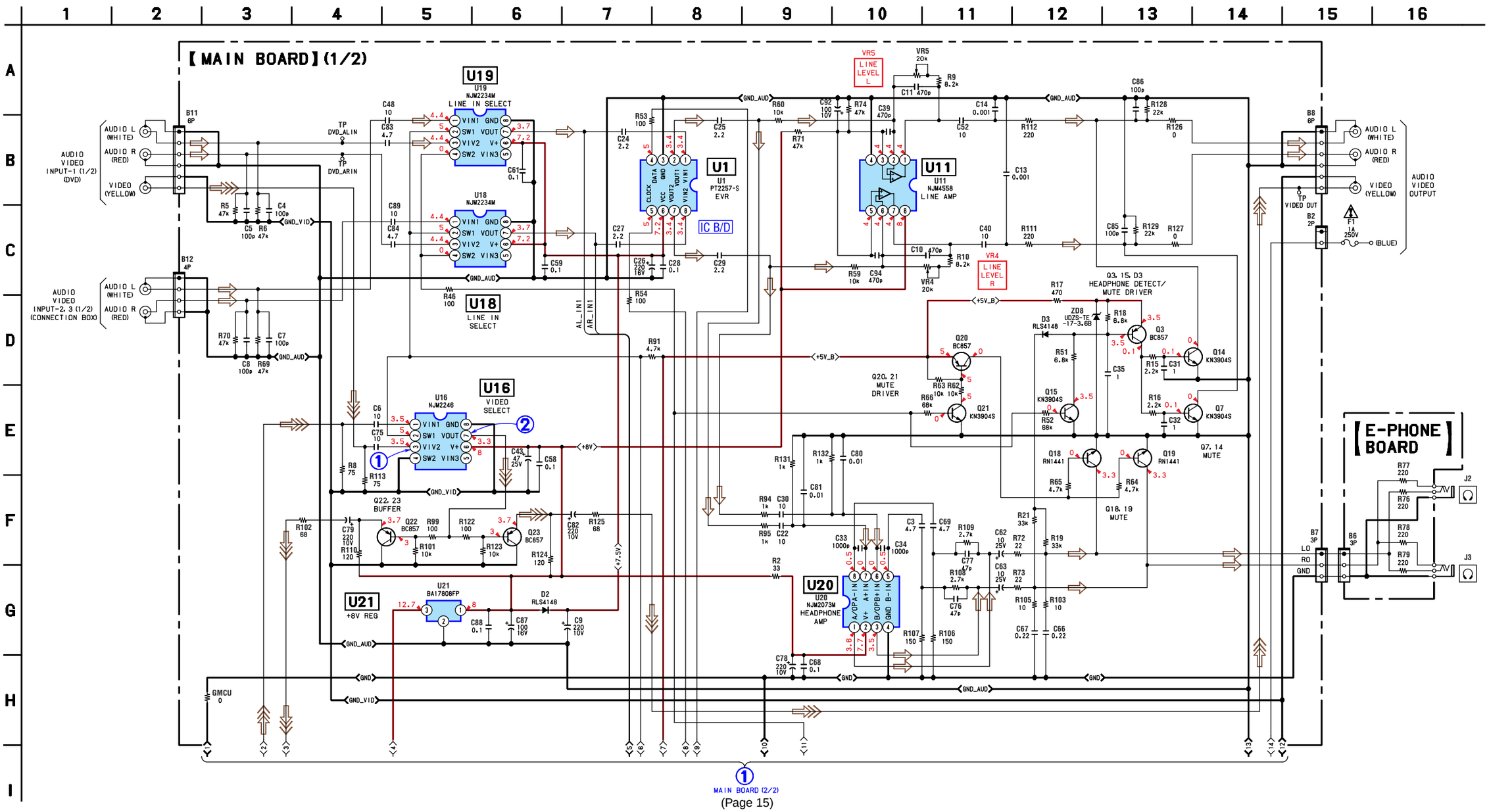
• Semiconductor Location

Ref. No.	Location
D2	B-7
D3	D-6
D14	F-10
Q1	H-6
Q2	G-9
Q3	D-7
Q4	G-4
Q5	H-8
Q6	H-8
Q7	C-8
Q8	H-9
Q9	E-9
Q10	F-9
Q11	F-9
Q12	E-12
Q13	E10
Q14	C-8
Q15	D-5
Q16	H-10
Q17	G-10
Q18	B-4
Q19	C-3
Q20	C-4
Q21	C-5
Q22	D-9
Q23	D-10
Q505	G-5
U1	C-8
U5	H-9
U6	G-9
U7	F-8
U8	G-8
U11	B-7
U12	F-4
U16	C-10
U18	B-8
U19	B-8
U20	B-4
U21	C-5
U501	G-4
U505	G-6
ZD1	G-10
ZD2	G-4
ZD3	H-10
ZD4	H-10
ZD5	I-10
ZD6	H-10
ZD7	E-5
ZD8	C-7
IR10	I-12
Q10	I-13

3-3. PRINTED WIRING BOARDS — MAIN SECTION (2/2) — • Refer to page 11 for Circuit Boards Location and Common Note on Printed Wiring Boards.

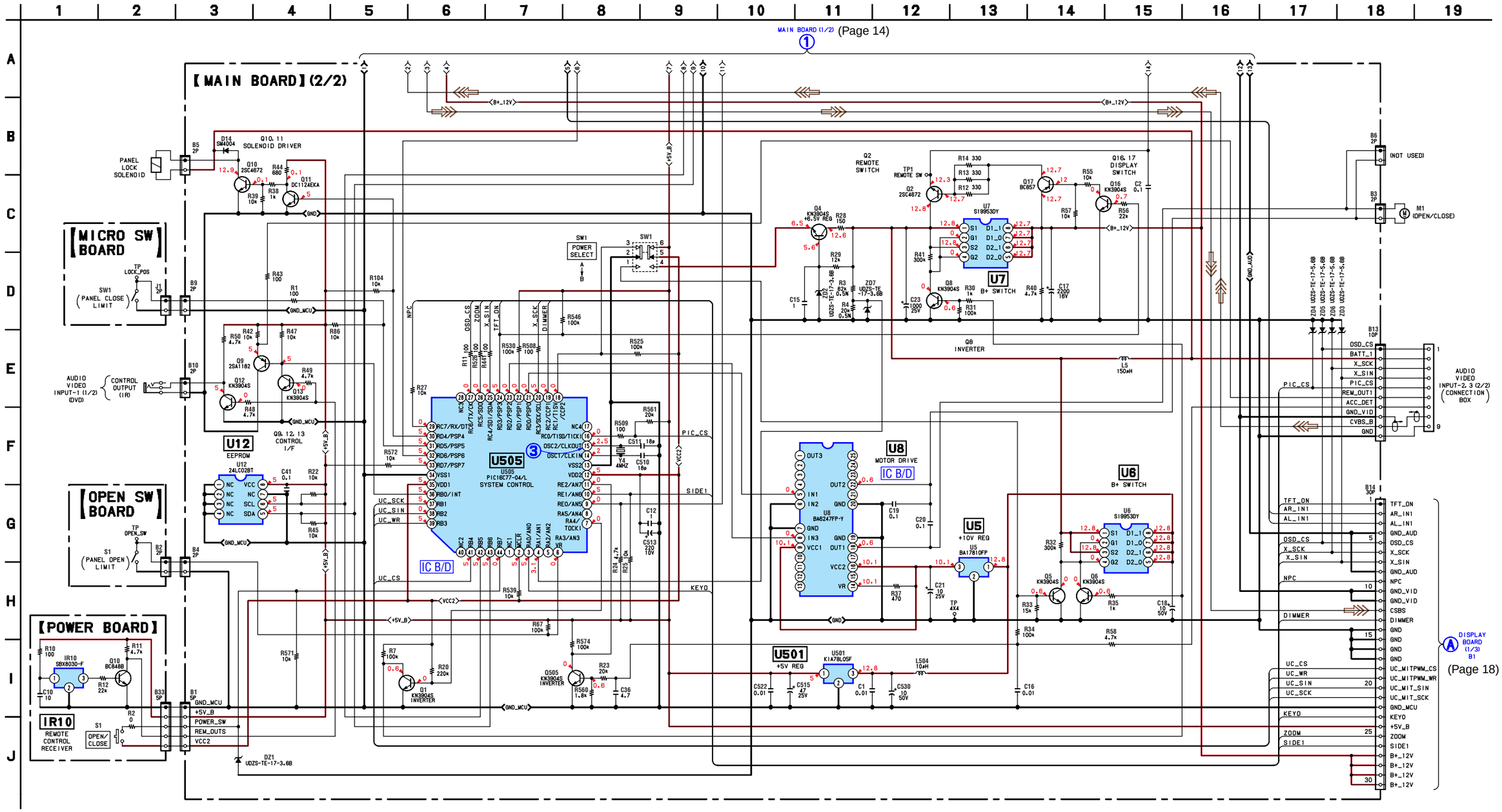


3-4. SCHEMATIC DIAGRAM — MAIN SECTION (1/2) — • Refer to page 10 for Waveforms and page 11 for Common Note on Schematic Diagram.



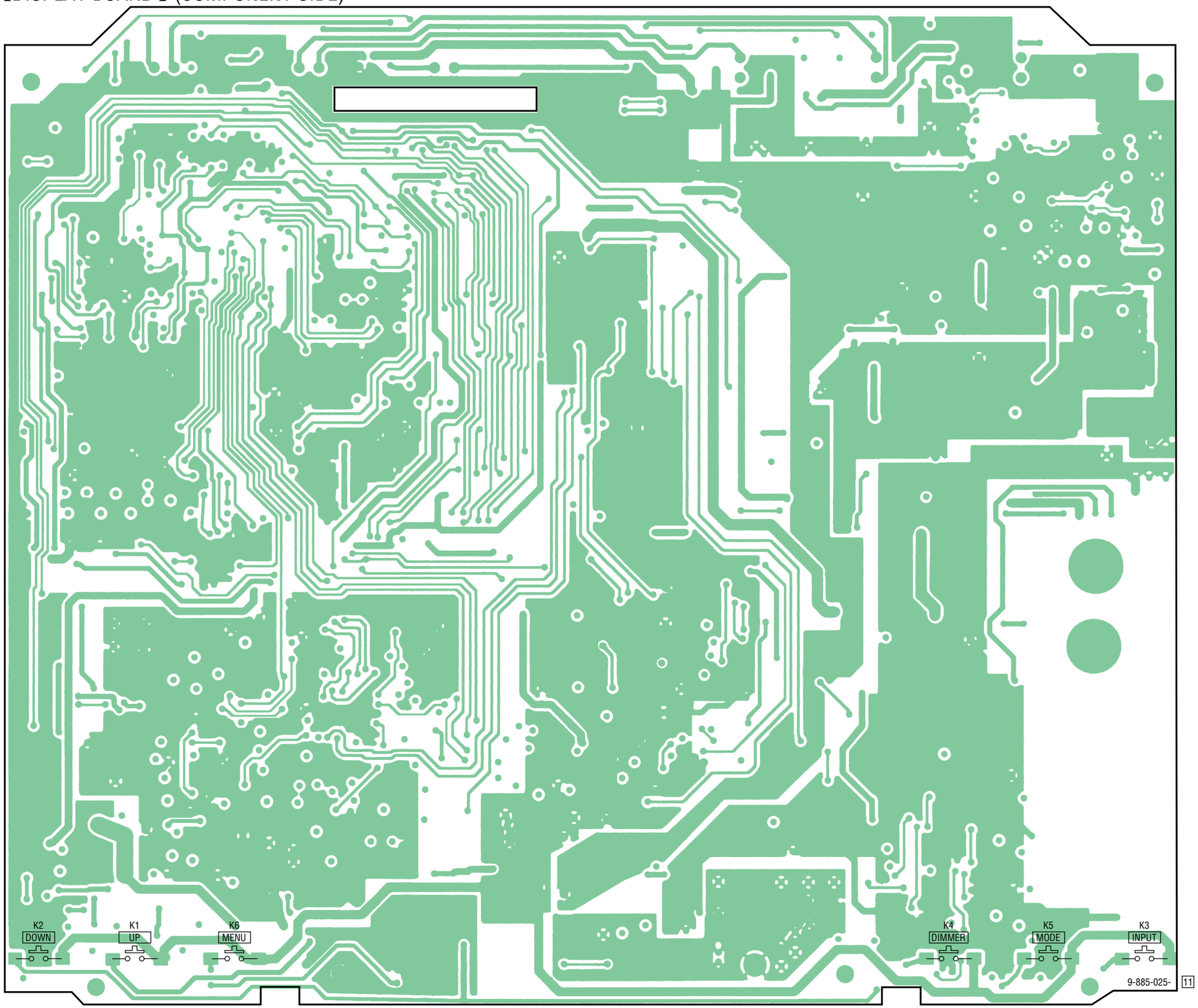
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

3-5. SCHEMATIC DIAGRAM — MAIN SECTION (2/2) — • Refer to page 10 for Waveforms and page 11 for Common Note on Schematic Diagram.

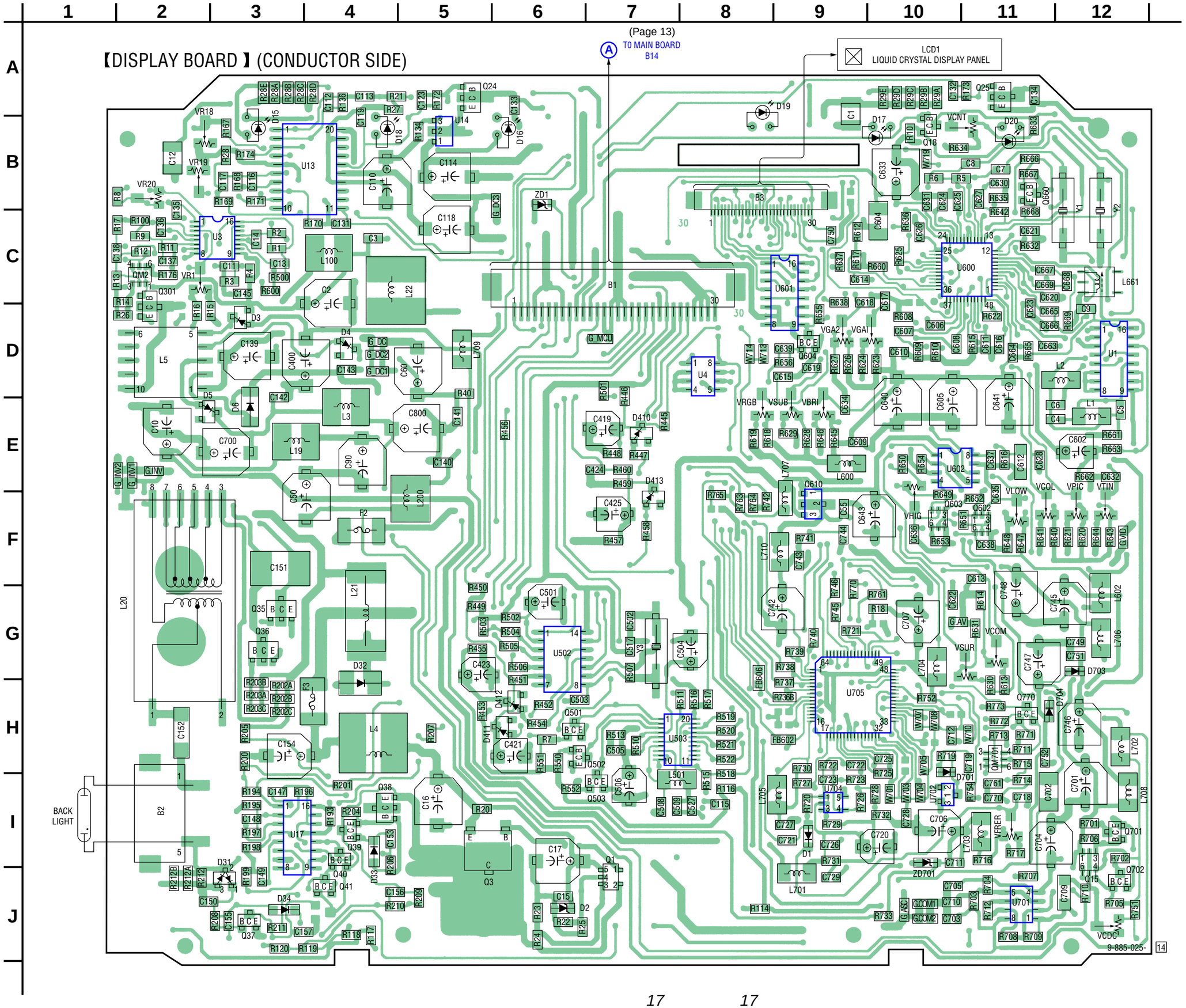


3-6. PRINTED WIRING BOARD — DISPLAY SECTION (1/2) — • Refer to page 11 for Circuit Boards Location and Common Note on Printed Wiring Boards.

【DISPLAY BOARD 】(COMPONENT SIDE)



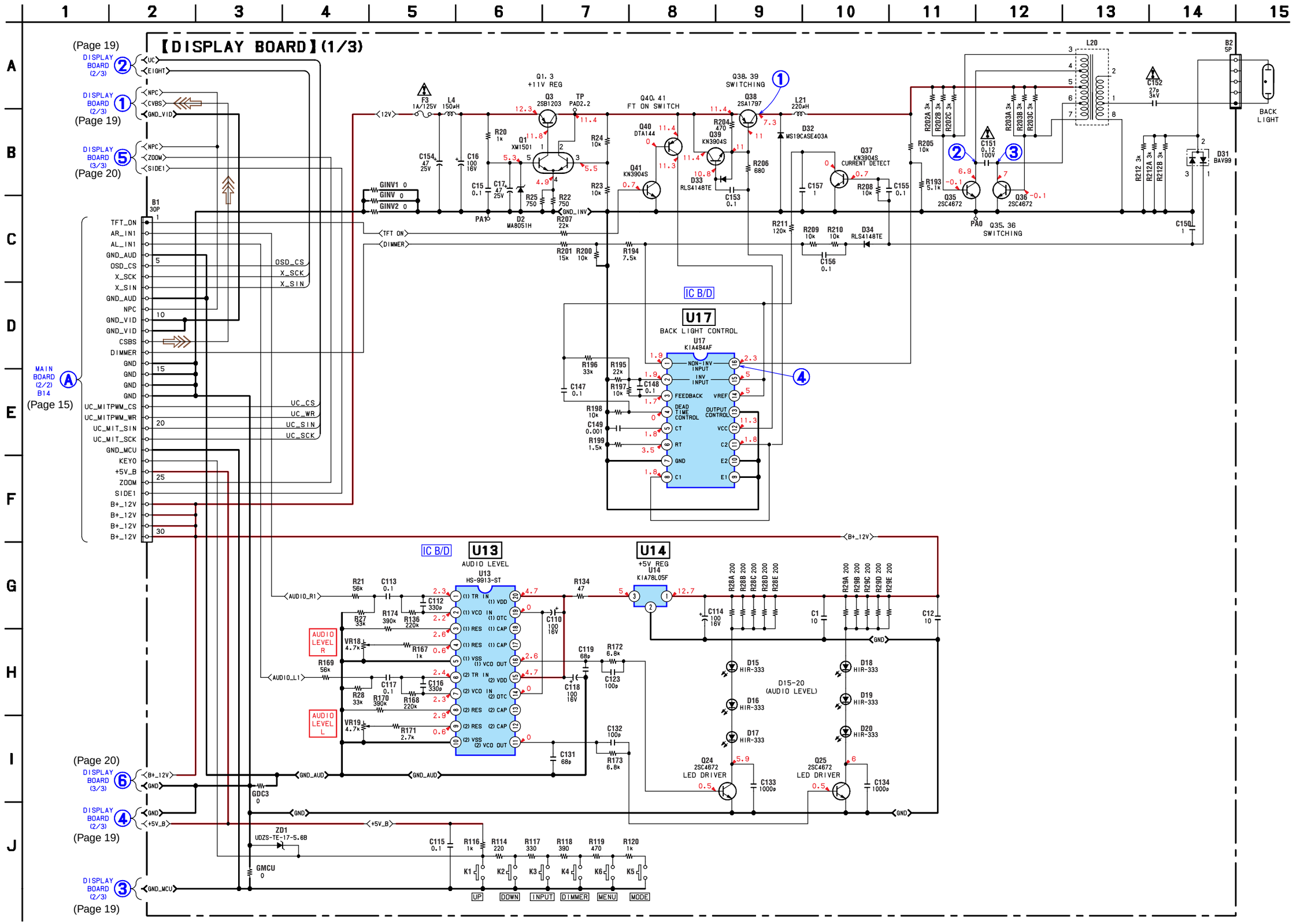
3-7. PRINTED WIRING BOARD — DISPLAY SECTION (2/2) — • Refer to page 11 for Circuit Boards Location and Common Note on Printed Wiring Boards.



• **Semiconductor Location**

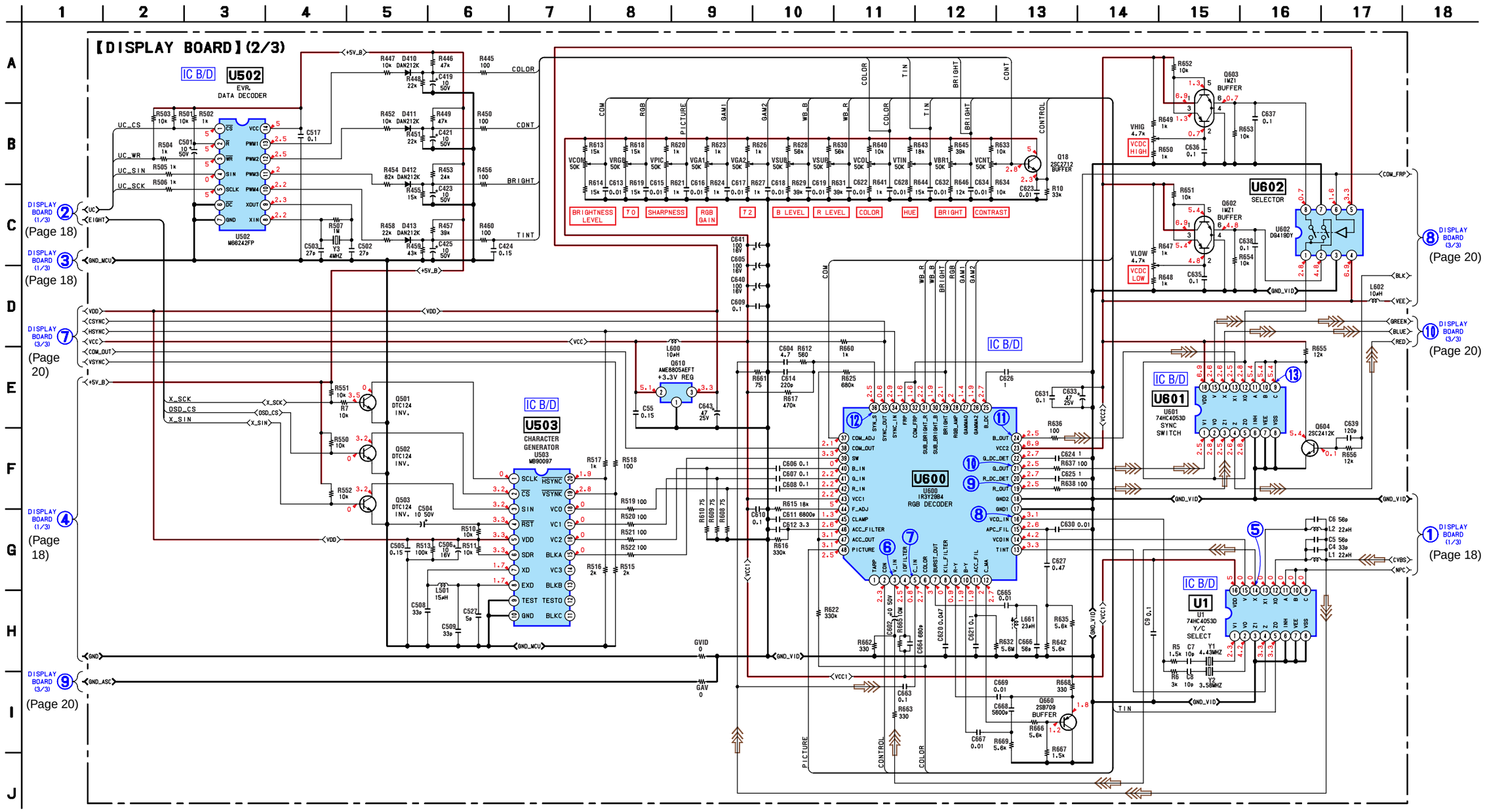
Ref. No.	Location
D1	I-9
D2	J-6
D3	D-3
D4	D-4
D5	E-3
D6	E-3
D15	B-3
D16	B-6
D17	B-10
D18	B-4
D19	B-9
D20	B-11
D31	J-3
D32	G-4
D33	I-4
D34	J-3
D410	E-7
D411	H-5
D412	H-6
D413	E-7
D701	I-11
D703	G-12
D704	H-12
Q1	I-7
Q3	J-5
Q15	J-12
Q18	B-10
Q24	A-5
Q25	A-11
Q35	G-3
Q36	G-3
Q37	J-3
Q38	I-4
Q39	I-4
Q40	J-4
Q41	J-4
Q301	C-2
Q501	H-6
Q502	H-7
Q503	I-7
Q602	F-11
Q603	F-10
Q604	D-9
Q610	E-9
Q660	B-11
Q701	I-12
Q702	J-12
Q770	H-11
QM2	C-2
QM701	H-11
U1	D-12
U3	C-3
U4	D-8
U13	B-4
U14	B-5
U17	I-3
U502	G-6
U503	H-7
U600	C-11
U601	C-9
U602	E-10
U701	J-11
U702	I-10
U704	I-9
U705	H-9
ZD1	B-6
ZD701	J-10

3-8. SCHEMATIC DIAGRAM — DISPLAY SECTION (1/3) — • Refer to page 10 for Waveforms and page 11 for Common Note on Schematic Diagram.

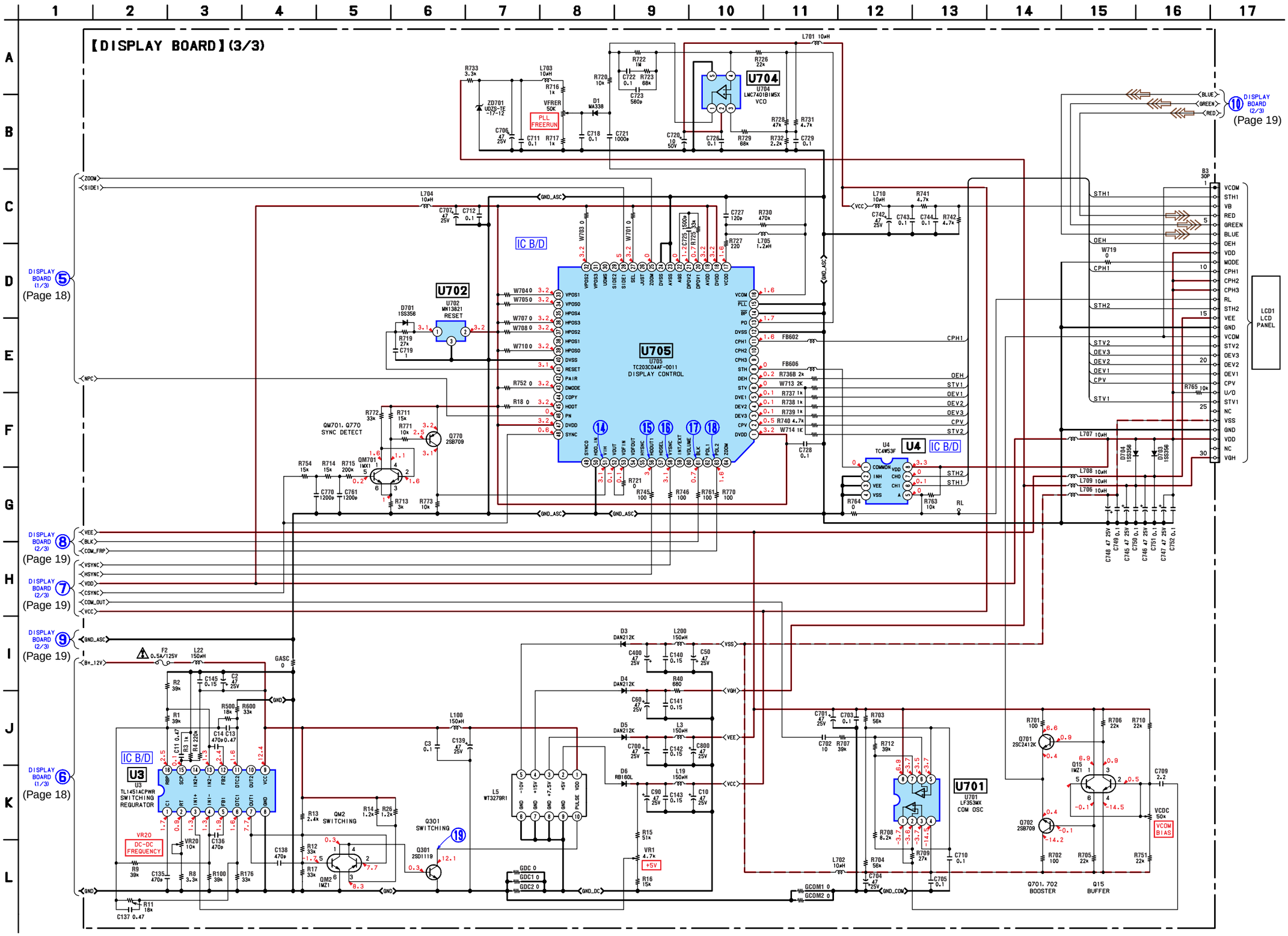


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

3-9. SCHEMATIC DIAGRAM — DISPLAY SECTION (2/3) — • Refer to page 10 for Waveforms and page 11 for Common Note on Schematic Diagram.



3-10. SCHEMATIC DIAGRAM — DISPLAY SECTION (3/3) — • Refer to page 10 for Waveforms and page 11 for Common Note on Schematic Diagram.



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

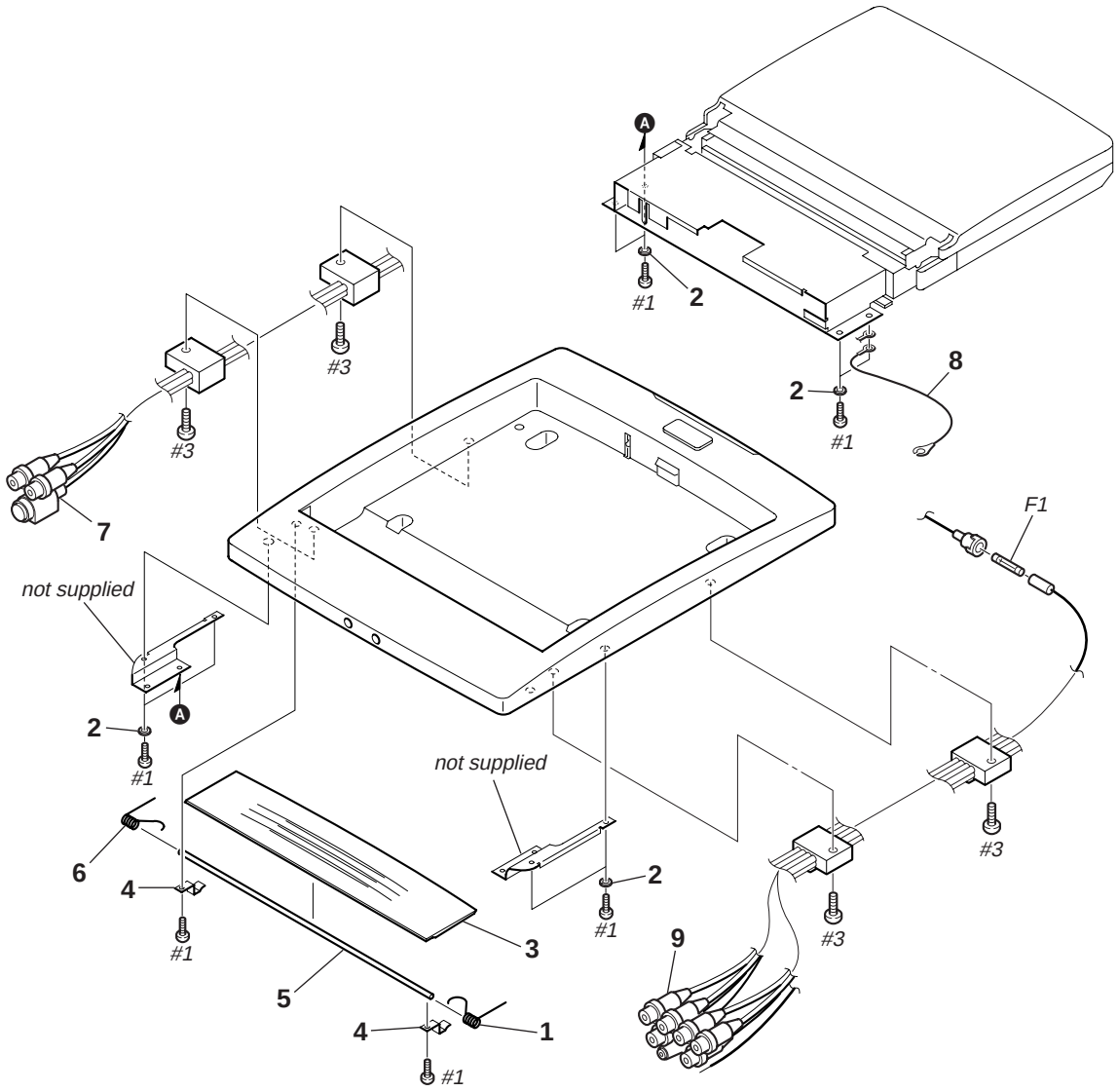
SECTION 4
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Accessories are given in the last of this parts list.
- Abbreviation
  CND : Canadian model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

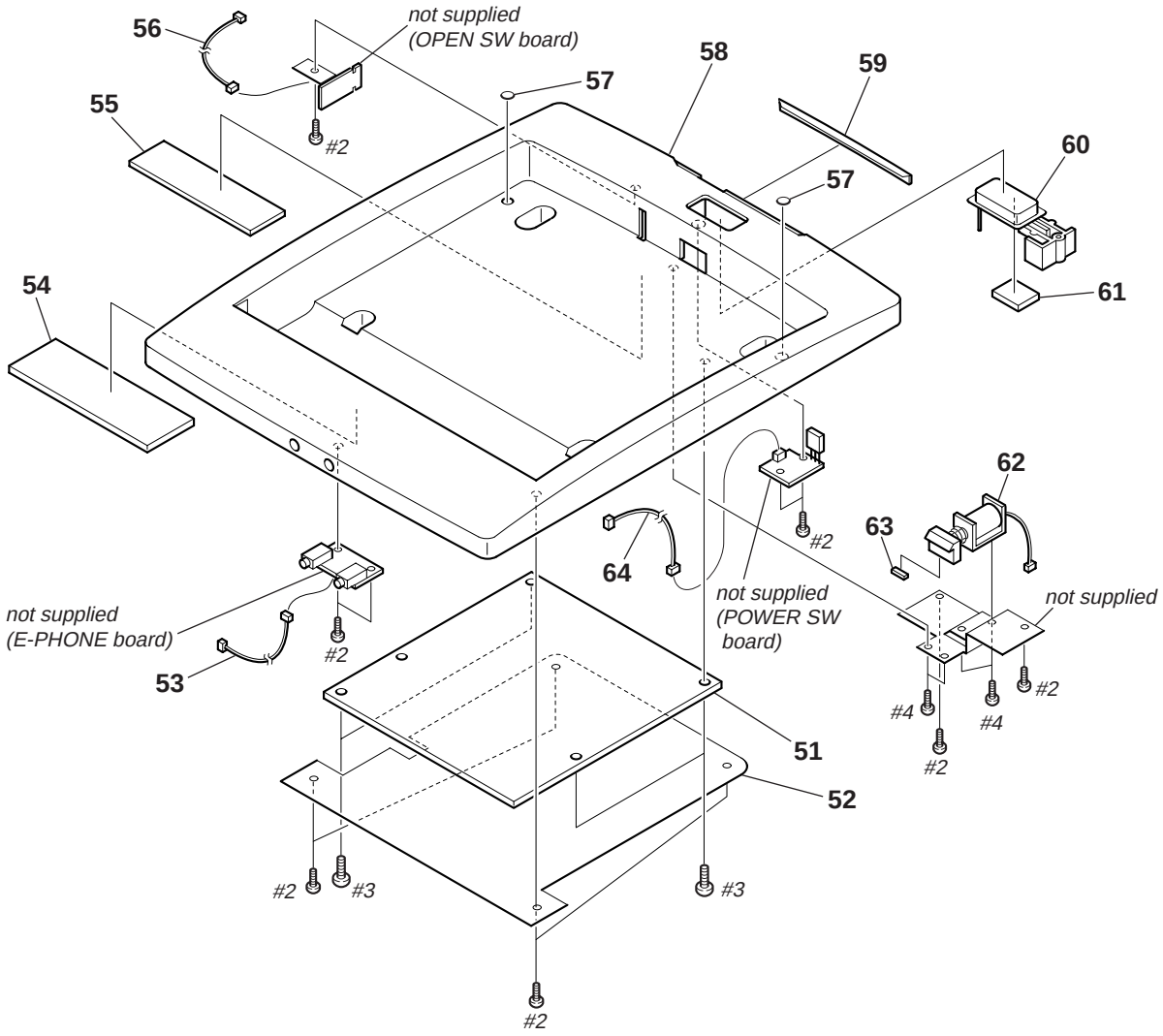
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

4-1. COVER SECTION-1



Ref. No.	Part No.	Description	Remark
1	9-885-025-31	SPRING R, COVER	
2	9-885-025-33	WASHER, SPRING (3.2X5.6X0.8)	
3	9-885-025-50	FLAP	
4	9-885-025-25	HOLDER, SPRING	
5	9-885-025-32	PLATE, METAL	
6	9-885-025-30	SPRING L, COVER	
7	9-885-025-62	CORD ASSY (DIN)	
8	9-885-025-73	WIRE, EARTH (WITH LAG)	
9	9-885-025-61	CORD ASSY (MINI)	
⚠F1	1-532-414-11	FUSE (1A/250V)	
#1	7-682-647-09	SCREW +PS 3X6	
#3	7-685-133-29	SCREW, TAPPING +P 2.6X6	

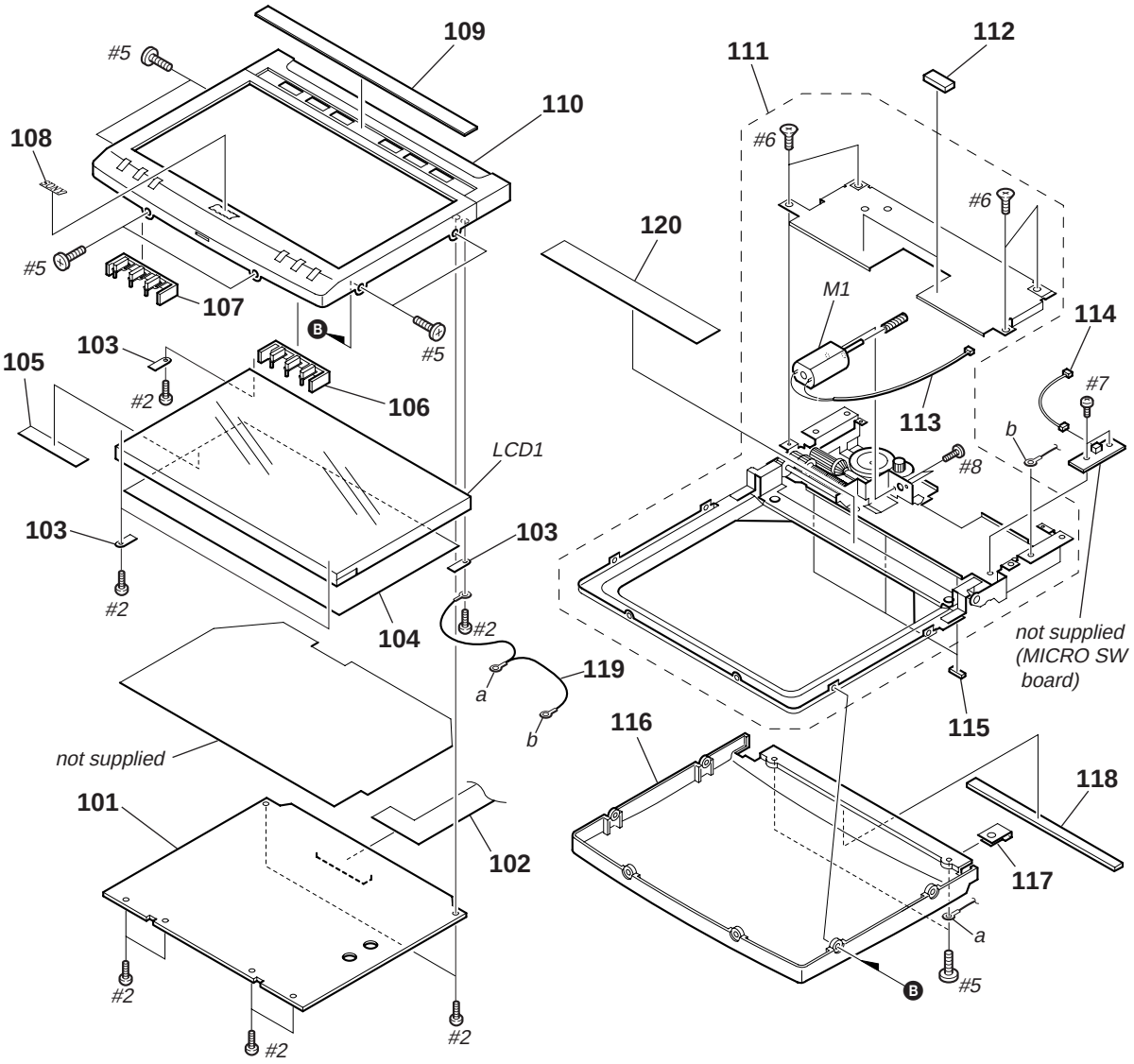
4-2. COVER SECTION-2



Ref. No.	Part No.	Description	Remark
51	9-885-025-13	MAIN BOARD, COMPLETE	
52	9-885-025-36	PLATE, SHIELD	
53	9-885-025-72	LEAD (WITH CONNECTOR) 3P (L=120mm)	
54	9-885-025-38	CUSHION (B)	
55	9-885-025-46	SPONGE, FUSE (70X20X4)	
56	9-885-025-69	LEAD (WITH CONNECTOR) 2P (L=120mm)	
57	9-885-025-59	CUSHION (E)	
58	9-885-025-56	COVER (BASE)	
59	9-885-025-54	COVER (IR FILTER)	

Ref. No.	Part No.	Description	Remark
60	9-885-025-51	BUTTON (POWER)	
61	9-885-025-40	CUSHION (D)	
62	9-885-025-77	RELAY	
63	9-885-025-39	CUSHION (C) (10X3X2)	
64	9-885-025-68	LEAD (WITH CONNECTOR) 5P (L=120mm)	
#2	7-685-103-29	SCREW, TAPPING +P 2X5	
#3	7-685-133-29	SCREW, TAPPING +P 2.6X6	
#4	7-621-255-10	SCREW +P 2X3	

4-3. LCD SECTION



Ref. No.	Part No.	Description	Remark
101	9-885-025-14	DISPLAY BOARD, COMPLETE	
102	9-885-025-76	WIRE (FLAT TYPE) (30 CORE) (L=120mm)	
103	9-885-025-28	WASHER	
104	9-885-025-42	CUSHION	
105	9-885-025-41	FOIL, COPPER	
106	9-885-025-53	BUTTON (R)	
107	9-885-025-52	BUTTON (L)	
108	4-969-961-11	EMBLEM, SONY	
109	9-885-025-55	COVER (IR LED)	
110	9-885-025-48	COVER (MONITOR), TOP	
111	9-885-025-19	BLOCK ASSY, GEAR	
112	9-885-025-40	CUSHION (D)	
113	9-885-025-70	LEAD (WITH CONNECTOR) 2P (L=160mm)	
114	9-885-025-71	LEAD (WITH CONNECTOR) 2P (L=180mm)	

Ref. No.	Part No.	Description	Remark
115	9-885-025-39	CUSHION (C) (10X3X2)	
116	9-885-025-49	COVER (MONITOR), BOTTOM	
117	9-885-025-35	SHEET, CONDUCTIVE	
118	9-885-025-37	CUSHION (A)	
119	9-885-025-60	WIRE, EARTH (L=50mm)	
120	9-885-025-44	SHEET	
LCD1	9-885-025-20	DISPLAY PANEL, LIQUID CRYSTAL (TFT) (7in. WIDE)	
M1	9-885-026-24	MOTOR (OPEN/CLOSE)	
#2	7-685-103-29	SCREW, TAPPING +P 2X5	
#5	7-621-555-30	SCREW +K 2X5	
#6	7-621-555-10	SCREW +K 2X3	
#7	7-627-553-28	SCREW +P 2X2.5	
#8	7-627-556-28	SCREW +P 2.6X3.5	

DISPLAY

SECTION 5
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Abbreviation
  CND : Canadian model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	9-885-025-14	DISPLAY BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
B1	9-885-026-50	CONNECTOR 30P			
B2	9-885-026-49	CONNECTOR 5P			
B3	9-885-026-51	CONNECTOR 30P			
		< CAPACITOR >			
C1	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C2	1-128-992-11	ELECT	47uF	20%	25V
C3	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C4	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C5	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C6	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C7	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C8	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C9	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C10	1-128-992-11	ELECT	47uF	20%	25V
C11	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C12	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C13	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C14	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C15	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C16	1-117-681-11	ELECT	100uF	20%	16V
C17	1-128-992-11	ELECT	47uF	20%	25V
C50	1-128-992-11	ELECT	47uF	20%	25V
C55	1-131-664-11	CERAMIC CHIP	0.15uF	10%	10V
C60	1-128-992-11	ELECT	47uF	20%	25V
C90	1-128-992-11	ELECT	47uF	20%	25V
C110	1-117-681-11	ELECT	100uF	20%	16V
C112	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C113	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C114	1-117-681-11	ELECT	100uF	20%	16V
C115	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C116	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C117	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C118	1-117-681-11	ELECT	100uF	20%	16V
C119	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C123	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C131	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C132	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C133	1-162-964-21	CERAMIC CHIP	0.001uF	5%	50V
C134	1-162-964-21	CERAMIC CHIP	0.001uF	5%	50V

Ref. No.	Part No.	Description			Remark
C135	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C136	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C137	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C138	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C139	1-128-992-11	ELECT	47uF	20%	25V
C140	1-131-664-11	CERAMIC CHIP	0.15uF	10%	10V
C141	1-131-664-11	CERAMIC CHIP	0.15uF	10%	10V
C142	1-131-664-11	CERAMIC CHIP	0.15uF	10%	10V
C143	1-131-664-11	CERAMIC CHIP	0.15uF	10%	10V
C145	1-131-664-11	CERAMIC CHIP	0.15uF	10%	10V
C147	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C148	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C149	1-162-964-21	CERAMIC CHIP	0.001uF	5%	50V
C150	1-165-822-11	CERAMIC CHIP	1uF		25V
⚠C151	9-885-026-27	CAPACITOR	0.12uF		100V
⚠C152	9-885-026-28	CAPACITOR	27PF		3KV
C153	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C154	1-128-992-11	ELECT	47uF	20%	25V
C155	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C156	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C157	1-165-822-11	CERAMIC CHIP	1uF		25V
C400	1-128-992-11	ELECT	47uF	20%	25V
C419	1-126-197-11	ELECT	10uF	20%	50V
C421	1-126-197-11	ELECT	10uF	20%	50V
C423	1-126-197-11	ELECT	10uF	20%	50V
C424	1-131-664-11	CERAMIC CHIP	0.15uF	10%	10V
C425	1-126-197-11	ELECT	10uF	20%	50V
C501	1-126-197-11	ELECT	10uF	20%	50V
C502	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C503	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C504	1-126-197-11	ELECT	10uF	20%	50V
C505	1-131-664-11	CERAMIC CHIP	0.15uF	10%	10V
C506	1-126-197-11	ELECT	10uF	20%	50V
C508	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C509	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C517	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C527	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C602	1-126-197-11	ELECT	10uF	20%	50V
C604	1-127-820-11	CERAMIC CHIP	4.7uF		16V
C605	1-117-681-11	ELECT	100uF	20%	16V
C606	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C607	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C608	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C609	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C610	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

Ref. No.	Part No.	Description			Remark
C611	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C612	9-885-026-94	CERAMIC CHIP	3.3uF		35V
C613	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C614	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C615	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C616	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C617	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C618	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C619	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C620	1-165-176-11	CERAMIC CHIP	0.0047uF	10%	16V
C621	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C622	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C623	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C624	1-165-822-11	CERAMIC CHIP	1uF		25V
C625	1-165-822-11	CERAMIC CHIP	1uF		25V
C626	1-165-822-11	CERAMIC CHIP	1uF		25V
C627	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C628	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C630	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C631	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C632	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C633	1-128-992-11	ELECT	47uF	20%	25V
C634	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C635	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C636	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C637	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C638	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C639	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
C640	1-117-681-11	ELECT	100uF	20%	16V
C641	1-117-681-11	ELECT	100uF	20%	16V
C643	1-128-992-11	ELECT	47uF	20%	25V
C663	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C664	1-164-471-11	CERAMIC CHIP	680PF	5%	50V
C665	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C666	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C667	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C668	1-165-172-21	CERAMIC CHIP	0.0056uF	5%	25V
C669	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C700	1-128-992-11	ELECT	47uF	20%	25V
C701	1-128-992-11	ELECT	47uF	20%	25V
C702	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C703	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C704	1-128-992-11	ELECT	47uF	20%	25V
C705	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C706	1-128-992-11	ELECT	47uF	20%	25V
C707	1-128-992-11	ELECT	47uF	20%	25V
C709	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C710	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C711	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C712	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C718	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C719	1-165-822-11	CERAMIC CHIP	1uF		25V
C720	1-126-197-11	ELECT	10uF	20%	50V
C721	1-162-964-21	CERAMIC CHIP	0.001uF	5%	50V
C722	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C723	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C725	1-162-965-21	CERAMIC CHIP	0.0015uF	5%	50V
C726	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C727	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
C728	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C729	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C742	1-128-992-11	ELECT	47uF	20%	25V
C743	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C744	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C745	1-128-992-11	ELECT	47uF	20%	25V
C746	1-128-992-11	ELECT	47uF	20%	25V
C747	1-128-992-11	ELECT	47uF	20%	25V
C748	1-128-992-11	ELECT	47uF	20%	25V
C749	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C750	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C751	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C752	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C761	1-164-730-11	CERAMIC CHIP	0.0012uF	10%	50V
C770	1-164-730-11	CERAMIC CHIP	0.0012uF	10%	50V
C800	1-128-992-11	ELECT	47uF	20%	25V

< DIODE >

D1	8-719-052-13	DIODE MA338-(TX).SO
D2	9-885-026-30	DIODE MA8051H
D3	8-719-989-26	DIODE DAN212K
D4	8-719-989-26	DIODE DAN212K
D5	8-719-989-26	DIODE DAN212K
D6	8-719-048-98	DIODE RB160L-40TE-25
D15	9-885-026-29	LED HIR-333 (AUDIO LEVEL)
D16	9-885-026-29	LED HIR-333 (AUDIO LEVEL)
D17	9-885-026-29	LED HIR-333 (AUDIO LEVEL)
D18	9-885-026-29	LED HIR-333 (AUDIO LEVEL)
D19	9-885-026-29	LED HIR-333 (AUDIO LEVEL)
D20	9-885-026-29	LED HIR-333 (AUDIO LEVEL)
D31	8-719-909-90	DIODE BAV99
D32	9-885-026-31	DIODE MS19CASE403A
D33	6-500-086-01	DIODE RLS4148TE-11
D34	6-500-086-01	DIODE RLS4148TE-11
D410	8-719-989-26	DIODE DAN212K
D411	8-719-989-26	DIODE DAN212K
D412	8-719-989-26	DIODE DAN212K
D413	8-719-989-26	DIODE DAN212K
D701	8-719-044-76	DIODE 1SS356-TW11
D703	8-719-044-76	DIODE 1SS356-TW11
D704	8-719-044-76	DIODE 1SS356-TW11

< FUSE >

⚠F2	1-533-969-11	FUSE (0.5A/125V)
⚠F3	1-533-998-11	FUSE (1A/125V)

< FERRITE BEAD >

FB602	9-885-026-32	INDUCTOR, FERRITE BEAD
FB606	9-885-026-32	INDUCTOR, FERRITE BEAD

< JUMPER RESISTOR >

G_ASC	1-216-864-11	METAL CHIP	0	5%	1/10W
G_AV	1-216-864-11	METAL CHIP	0	5%	1/10W
G_COM1	1-216-864-11	METAL CHIP	0	5%	1/10W
G_COM2	1-216-864-11	METAL CHIP	0	5%	1/10W
G_DC	1-216-864-11	METAL CHIP	0	5%	1/10W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

DISPLAY

Ref. No.	Part No.	Description			Remark
G_DC1	1-216-864-11	METAL CHIP	0	5%	1/10W
G_DC2	1-216-864-11	METAL CHIP	0	5%	1/10W
G_DC3	1-216-864-11	METAL CHIP	0	5%	1/10W
G_INV	1-216-864-11	METAL CHIP	0	5%	1/10W
G_INV1	1-216-864-11	METAL CHIP	0	5%	1/10W
G_INV2	1-216-864-11	METAL CHIP	0	5%	1/10W
G_MCU	1-216-864-11	METAL CHIP	0	5%	1/10W
G_VID	1-216-864-11	METAL CHIP	0	5%	1/10W
		< SWITCH >			
K1	9-885-026-53	SWITCH, TACTILE (UP)			
K2	9-885-026-53	SWITCH, TACTILE (DOWN)			
K3	9-885-026-53	SWITCH, TACTILE (INPUT)			
K4	9-885-026-53	SWITCH, TACTILE (DIMMER)			
K5	9-885-026-53	SWITCH, TACTILE (MENU)			
K6	9-885-026-53	SWITCH, TACTILE (MODE)			
		< COIL >			
L1	1-410-385-11	INDUCTOR CHIP 22uH			
L2	1-410-385-11	INDUCTOR CHIP 22uH			
L3	9-885-026-33	INDUCTOR CHIP 150uH			
L4	9-885-026-36	INDUCTOR CHIP 150uH			
L5	9-885-026-37	TRANSFORMER, DC/DC			
L19	9-885-026-33	INDUCTOR CHIP 150uH			
L20	9-885-026-34	TRANSFORMER, AC/AC			
L21	9-885-026-35	INDUCTOR CHIP 220uH			
L22	9-885-026-36	INDUCTOR CHIP 150uH			
L100	9-885-026-33	INDUCTOR CHIP 150uH			
L200	9-885-026-33	INDUCTOR CHIP 150uH			
L501	1-410-383-31	INDUCTOR CHIP 15uH			
L600	1-410-381-11	INDUCTOR CHIP 10uH			
L602	1-410-381-11	INDUCTOR CHIP 10uH			
L661	9-885-026-38	COIL, VARIABLE 23uH			
L701	1-410-381-11	INDUCTOR CHIP 10uH			
L702	1-410-381-11	INDUCTOR CHIP 10uH			
L703	1-410-381-11	INDUCTOR CHIP 10uH			
L704	1-410-381-11	INDUCTOR CHIP 10uH			
L705	1-410-370-11	INDUCTOR CHIP 1.2uH			
L706	1-410-381-11	INDUCTOR CHIP 10uH			
L707	1-410-381-11	INDUCTOR CHIP 10uH			
L708	1-410-381-11	INDUCTOR CHIP 10uH			
L709	1-410-381-11	INDUCTOR CHIP 10uH			
L710	1-410-381-11	INDUCTOR CHIP 10uH			
		< TRANSISTOR >			
Q1	8-729-402-13	TRANSISTOR XN1501			
Q3	8-729-105-29	TRANSISTOR 2SA1385-L			
Q15	8-729-907-46	TRANSISTOR IMZ1			
Q18	8-729-230-49	TRANSISTOR 2SC2712-YG			
Q24	8-729-032-34	TRANSISTOR 2SC4672-T101-Q			
Q25	8-729-032-34	TRANSISTOR 2SC4672-T101-Q			
Q35	8-729-032-34	TRANSISTOR 2SC4672-T101-Q			
Q36	8-729-032-34	TRANSISTOR 2SC4672-T101-Q			
Q37	9-885-026-76	TRANSISTOR KN3904S			
Q38	8-729-926-67	TRANSISTOR 2SA1797P			
Q39	9-885-026-76	TRANSISTOR KN3904S			
Q40	8-729-027-38	TRANSISTOR DTA144EKA-T146			
Q41	9-885-026-76	TRANSISTOR KN3904S			

Ref. No.	Part No.	Description			Remark
Q301	8-729-421-15	TRANSISTOR 2SD1119-Q			
Q501	8-729-901-00	TRANSISTOR DTC124EKA			
Q502	8-729-901-00	TRANSISTOR DTC124EKA			
Q503	8-729-901-00	TRANSISTOR DTC124EKA			
Q602	8-729-907-46	TRANSISTOR IMZ1			
Q603	8-729-907-46	TRANSISTOR IMZ1			
Q604	8-729-920-74	TRANSISTOR 2SC2412K-R			
Q610	9-885-026-39	IC AME8805AEFT			
Q660	8-729-400-32	TRANSISTOR 2SB709-R			
Q701	8-729-920-74	TRANSISTOR 2SC2412K-R			
Q702	8-729-400-32	TRANSISTOR 2SB709-R			
Q770	8-729-400-32	TRANSISTOR 2SB709-R			
QM2	8-729-907-46	TRANSISTOR IMZ1			
QM701	8-729-907-26	TRANSISTOR IMX1			
		< RESISTOR >			
R1	1-216-840-11	METAL CHIP	39K	5%	1/10W
R2	1-216-840-11	METAL CHIP	39K	5%	1/10W
R3	1-216-821-11	METAL CHIP	1K	5%	1/10W
R4	1-216-849-11	METAL CHIP	220K	5%	1/10W
R5	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R6	1-216-865-11	METAL CHIP	3K	5%	1/10W
R7	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R9	1-216-840-11	METAL CHIP	39K	5%	1/10W
R10	1-216-839-11	METAL CHIP	33K	5%	1/10W
R11	1-216-836-11	METAL CHIP	18K	5%	1/10W
R12	1-216-839-11	METAL CHIP	33K	5%	1/10W
R13	1-218-701-11	METAL CHIP	2.4K	5%	1/10W
R14	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R15	1-218-331-11	METAL CHIP	51K	5%	1/10W
R16	1-216-835-11	METAL CHIP	15K	5%	1/10W
R17	1-216-839-11	METAL CHIP	33K	5%	1/10W
R18	1-216-864-11	METAL CHIP	0	5%	1/10W
R20	1-216-821-11	METAL CHIP	1K	5%	1/10W
R21	1-216-842-11	METAL CHIP	56K	5%	1/10W
R22	1-218-484-11	METAL CHIP	750	5%	1/10W
R23	1-216-833-11	METAL CHIP	10K	5%	1/10W
R24	1-216-833-11	METAL CHIP	10K	5%	1/10W
R25	1-218-484-11	METAL CHIP	750	5%	1/10W
R26	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R27	1-216-839-11	METAL CHIP	33K	5%	1/10W
R28	1-216-839-11	METAL CHIP	33K	5%	1/10W
R28A	1-216-181-11	METAL CHIP	200	5%	1/8W
R28B	1-216-181-11	METAL CHIP	200	5%	1/8W
R28C	1-216-181-11	METAL CHIP	200	5%	1/8W
R28D	1-216-181-11	METAL CHIP	200	5%	1/8W
R28E	1-216-181-11	METAL CHIP	200	5%	1/8W
R29A	1-216-181-11	METAL CHIP	200	5%	1/8W
R29B	1-216-181-11	METAL CHIP	200	5%	1/8W
R29C	1-216-181-11	METAL CHIP	200	5%	1/8W
R29D	1-216-181-11	METAL CHIP	200	5%	1/8W
R29E	1-216-181-11	METAL CHIP	200	5%	1/8W
R40	1-216-819-11	METAL CHIP	680	5%	1/10W
R100	1-216-840-11	METAL CHIP	39K	5%	1/10W
R114	1-216-813-11	METAL CHIP	220	5%	1/10W
R116	1-216-821-11	METAL CHIP	1K	5%	1/10W
R117	1-216-815-11	METAL CHIP	330	5%	1/10W

Ref. No.	Part No.	Description			Remark
R118	1-216-816-11	METAL CHIP	390	5%	1/10W
R119	1-216-817-11	METAL CHIP	470	5%	1/10W
R120	1-216-821-11	METAL CHIP	1K	5%	1/10W
R134	1-216-805-11	METAL CHIP	47	5%	1/10W
R136	1-216-849-11	METAL CHIP	220K	5%	1/10W
R167	1-216-821-11	METAL CHIP	1K	5%	1/10W
R168	1-216-849-11	METAL CHIP	220K	5%	1/10W
R169	1-216-842-11	METAL CHIP	56K	5%	1/10W
R170	1-216-852-11	METAL CHIP	390K	5%	1/10W
R171	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R172	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R173	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R174	1-216-852-11	METAL CHIP	390K	5%	1/10W
R176	1-216-839-11	METAL CHIP	33K	5%	1/10W
R193	1-218-272-11	METAL CHIP	5.1K	5%	1/10W
R194	1-218-344-11	METAL CHIP	7.5K	5%	1/10W
R195	1-216-837-11	METAL CHIP	22K	5%	1/10W
R196	1-216-839-11	METAL CHIP	33K	5%	1/10W
R197	1-216-833-11	METAL CHIP	10K	5%	1/10W
R198	1-216-833-11	METAL CHIP	10K	5%	1/10W
R199	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R200	1-216-833-11	METAL CHIP	10K	5%	1/10W
R201	1-216-835-11	METAL CHIP	15K	5%	1/10W
R202A	1-216-865-11	METAL CHIP	3K	5%	1/10W
R202B	1-216-865-11	METAL CHIP	3K	5%	1/10W
R202C	1-216-865-11	METAL CHIP	3K	5%	1/10W
R203A	1-216-865-11	METAL CHIP	3K	5%	1/10W
R203B	1-216-865-11	METAL CHIP	3K	5%	1/10W
R203C	1-216-865-11	METAL CHIP	3K	5%	1/10W
R204	1-216-817-11	METAL CHIP	470	5%	1/10W
R205	1-216-833-11	METAL CHIP	10K	5%	1/10W
R206	1-216-819-11	METAL CHIP	680	5%	1/10W
R207	1-216-837-11	METAL CHIP	22K	5%	1/10W
R208	1-216-833-11	METAL CHIP	10K	5%	1/10W
R209	1-216-833-11	METAL CHIP	10K	5%	1/10W
R210	1-216-833-11	METAL CHIP	10K	5%	1/10W
R211	1-216-846-11	METAL CHIP	120K	5%	1/10W
R212	1-216-865-11	METAL CHIP	3K	5%	1/10W
R212A	1-216-865-11	METAL CHIP	3K	5%	1/10W
R212B	1-216-865-11	METAL CHIP	3K	5%	1/10W
R445	1-216-809-11	METAL CHIP	100	5%	1/10W
R446	1-216-841-11	METAL CHIP	47K	5%	1/10W
R447	1-216-833-11	METAL CHIP	10K	5%	1/10W
R448	1-216-837-11	METAL CHIP	22K	5%	1/10W
R449	1-216-841-11	METAL CHIP	47K	5%	1/10W
R450	1-216-809-11	METAL CHIP	100	5%	1/10W
R451	1-216-837-11	METAL CHIP	22K	5%	1/10W
R452	1-216-833-11	METAL CHIP	10K	5%	1/10W
R453	1-218-725-11	METAL CHIP	24K	5%	1/10W
R454	1-216-844-11	METAL CHIP	82K	5%	1/10W
R455	1-216-835-11	METAL CHIP	15K	5%	1/10W
R456	1-216-809-11	METAL CHIP	100	5%	1/10W
R457	1-216-840-11	METAL CHIP	39K	5%	1/10W
R458	1-216-837-11	METAL CHIP	22K	5%	1/10W
R459	1-218-731-11	METAL CHIP	43K	5%	1/10W
R460	1-216-809-11	METAL CHIP	100	5%	1/10W
R500	1-216-836-11	METAL CHIP	18K	5%	1/10W
R501	1-216-833-11	METAL CHIP	10K	5%	1/10W
R502	1-216-821-11	METAL CHIP	1K	5%	1/10W
R503	1-216-833-11	METAL CHIP	10K	5%	1/10W
R504	1-216-821-11	METAL CHIP	1K	5%	1/10W
R505	1-216-821-11	METAL CHIP	1K	5%	1/10W
R506	1-216-821-11	METAL CHIP	1K	5%	1/10W
R507	1-216-857-11	METAL CHIP	1M	5%	1/10W
R510	1-216-833-11	METAL CHIP	10K	5%	1/10W
R511	1-216-833-11	METAL CHIP	10K	5%	1/10W
R513	1-216-845-11	METAL CHIP	100K	5%	1/10W
R515	1-218-271-11	METAL CHIP	2K	5%	1/10W
R516	1-218-271-11	METAL CHIP	2K	5%	1/10W
R517	1-216-821-11	METAL CHIP	1K	5%	1/10W
R518	1-216-809-11	METAL CHIP	100	5%	1/10W
R519	1-216-809-11	METAL CHIP	100	5%	1/10W
R520	1-216-809-11	METAL CHIP	100	5%	1/10W
R521	1-216-809-11	METAL CHIP	100	5%	1/10W
R522	1-216-809-11	METAL CHIP	100	5%	1/10W
R550	1-216-833-11	METAL CHIP	10K	5%	1/10W
R551	1-216-833-11	METAL CHIP	10K	5%	1/10W
R552	1-216-833-11	METAL CHIP	10K	5%	1/10W
R600	1-216-839-11	METAL CHIP	33K	5%	1/10W
R608	1-218-285-11	METAL CHIP	75	5%	1/10W
R609	1-218-285-11	METAL CHIP	75	5%	1/10W
R610	1-218-285-11	METAL CHIP	75	5%	1/10W
R612	1-216-818-11	METAL CHIP	560	5%	1/10W
R613	1-216-835-11	METAL CHIP	15K	5%	1/10W
R614	1-216-835-11	METAL CHIP	15K	5%	1/10W
R615	1-216-836-11	METAL CHIP	18K	5%	1/10W
R616	1-216-851-11	METAL CHIP	330K	5%	1/10W
R617	1-216-853-11	METAL CHIP	470K	5%	1/10W
R618	1-216-835-11	METAL CHIP	15K	5%	1/10W
R619	1-216-835-11	METAL CHIP	15K	5%	1/10W
R620	1-216-821-11	METAL CHIP	1K	5%	1/10W
R621	1-216-821-11	METAL CHIP	1K	5%	1/10W
R622	1-216-851-11	METAL CHIP	330K	5%	1/10W
R623	1-216-821-11	METAL CHIP	1K	5%	1/10W
R624	1-216-821-11	METAL CHIP	1K	5%	1/10W
R625	1-216-855-11	METAL CHIP	680K	5%	1/10W
R626	1-216-821-11	METAL CHIP	1K	5%	1/10W
R627	1-216-821-11	METAL CHIP	1K	5%	1/10W
R628	1-216-842-11	METAL CHIP	56K	5%	1/10W
R629	1-216-840-11	METAL CHIP	39K	5%	1/10W
R630	1-216-842-11	METAL CHIP	56K	5%	1/10W
R631	1-216-840-11	METAL CHIP	39K	5%	1/10W
R632	1-242-957-11	METAL CHIP	5.6M	5%	1/10W
R633	1-216-833-11	METAL CHIP	10K	5%	1/10W
R634	1-216-833-11	METAL CHIP	10K	5%	1/10W
R635	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R636	1-216-809-11	METAL CHIP	100	5%	1/10W
R637	1-216-809-11	METAL CHIP	100	5%	1/10W
R638	1-216-809-11	METAL CHIP	100	5%	1/10W
R640	1-216-833-11	METAL CHIP	10K	5%	1/10W
R641	1-216-821-11	METAL CHIP	1K	5%	1/10W
R642	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R643	1-216-836-11	METAL CHIP	18K	5%	1/10W
R644	1-216-835-11	METAL CHIP	15K	5%	1/10W
R645	1-216-840-11	METAL CHIP	39K	5%	1/10W
R646	1-216-834-11	METAL CHIP	12K	5%	1/10W

DISPLAY

Ref. No.	Part No.	Description			Remark
R647	1-216-821-11	METAL CHIP	1K	5%	1/10W
R648	1-216-821-11	METAL CHIP	1K	5%	1/10W
R649	1-216-821-11	METAL CHIP	1K	5%	1/10W
R650	1-216-821-11	METAL CHIP	1K	5%	1/10W
R651	1-216-833-11	METAL CHIP	10K	5%	1/10W
R652	1-216-833-11	METAL CHIP	10K	5%	1/10W
R653	1-216-833-11	METAL CHIP	10K	5%	1/10W
R654	1-216-833-11	METAL CHIP	10K	5%	1/10W
R655	1-216-834-11	METAL CHIP	12K	5%	1/10W
R656	1-216-834-11	METAL CHIP	12K	5%	1/10W
R660	1-216-821-11	METAL CHIP	1K	5%	1/10W
R661	1-218-285-11	METAL CHIP	75	5%	1/10W
R662	1-216-815-11	METAL CHIP	330	5%	1/10W
R663	1-216-815-11	METAL CHIP	330	5%	1/10W
R665	1-219-570-11	METAL CHIP	10M	5%	1/10W
R666	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R667	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R668	1-216-815-11	METAL CHIP	330	5%	1/10W
R669	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R701	1-216-809-11	METAL CHIP	100	5%	1/10W
R702	1-216-809-11	METAL CHIP	100	5%	1/10W
R703	1-216-842-11	METAL CHIP	56K	5%	1/10W
R704	1-216-842-11	METAL CHIP	56K	5%	1/10W
R705	1-216-837-11	METAL CHIP	22K	5%	1/10W
R706	1-216-837-11	METAL CHIP	22K	5%	1/10W
R707	1-216-840-11	METAL CHIP	39K	5%	1/10W
R708	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R709	1-216-838-11	METAL CHIP	27K	5%	1/10W
R710	1-216-837-11	METAL CHIP	22K	5%	1/10W
R711	1-216-835-11	METAL CHIP	15K	5%	1/10W
R712	1-216-840-11	METAL CHIP	39K	5%	1/10W
R713	1-216-865-11	METAL CHIP	3K	5%	1/10W
R714	1-216-835-11	METAL CHIP	15K	5%	1/10W
R715	1-218-747-11	METAL CHIP	200K	5%	1/10W
R716	1-216-821-11	METAL CHIP	1K	5%	1/10W
R717	1-216-821-11	METAL CHIP	1K	5%	1/10W
R719	1-216-838-11	METAL CHIP	27K	5%	1/10W
R720	1-216-833-11	METAL CHIP	10K	5%	1/10W
R721	1-216-864-11	METAL CHIP	0	5%	1/10W
R722	1-216-857-11	METAL CHIP	1M	5%	1/10W
R723	1-216-843-11	METAL CHIP	68K	5%	1/10W
R725	1-216-839-11	METAL CHIP	33K	5%	1/10W
R726	1-216-837-11	METAL CHIP	22K	5%	1/10W
R727	1-216-813-11	METAL CHIP	220	5%	1/10W
R728	1-216-841-11	METAL CHIP	47K	5%	1/10W
R729	1-216-843-11	METAL CHIP	68K	5%	1/10W
R730	1-216-853-11	METAL CHIP	470K	5%	1/10W
R731	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R732	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R733	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R736B	1-218-271-11	METAL CHIP	2K	5%	1/10W
R737	1-216-821-11	METAL CHIP	1K	5%	1/10W
R738	1-216-821-11	METAL CHIP	1K	5%	1/10W
R739	1-216-821-11	METAL CHIP	1K	5%	1/10W
R740	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R741	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R742	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R745	1-216-809-11	METAL CHIP	100	5%	1/10W

Ref. No.	Part No.	Description			Remark
R746	1-216-809-11	METAL CHIP	100	5%	1/10W
R751	1-216-837-11	METAL CHIP	22K	5%	1/10W
R752	1-216-864-11	METAL CHIP	0	5%	1/10W
R754	1-216-835-11	METAL CHIP	15K	5%	1/10W
R761	1-216-809-11	METAL CHIP	100	5%	1/10W
R763	1-216-833-11	METAL CHIP	10K	5%	1/10W
R764	1-216-864-11	METAL CHIP	0	5%	1/10W
R765	1-216-833-11	METAL CHIP	10K	5%	1/10W
R770	1-216-809-11	METAL CHIP	100	5%	1/10W
R771	1-216-833-11	METAL CHIP	10K	5%	1/10W
R772	1-216-839-11	METAL CHIP	33K	5%	1/10W
R773	1-216-833-11	METAL CHIP	10K	5%	1/10W

< IC >

U1	6-700-055-11	IC 74HC4053D
U3	8-759-669-46	IC TL1451ACPWR-12
U4	8-759-242-64	IC TC4W53F
U13	9-885-026-40	IC HS-9913-ST
U14	9-885-026-41	IC KIA78L05F
U17	9-885-026-42	IC KIA494AF
U502	8-759-636-43	IC M66242FP
U503	9-885-026-43	IC MB90097
U600	8-759-450-52	IC IR3Y29B4
U601	6-700-055-11	IC 74HC4053D
U602	9-885-026-44	IC DG419DY
U701	9-885-025-64	IC LF353MX
U702	9-885-025-65	IC MN13821
U704	8-759-575-16	IC LMC7101BIM5X
U705	9-885-026-45	IC TC203G04AF-0011

< CERMET RESISTOR >

VBRI	1-227-231-11	RES, ADJ, CERMET 50K
VCDC	1-227-231-11	RES, ADJ, CERMET 50K
VCNT	1-227-231-11	RES, ADJ, CERMET 50K
VCOL	1-227-231-11	RES, ADJ, CERMET 50K
VCOM	1-227-231-11	RES, ADJ, CERMET 50K
VFRER	1-227-231-11	RES, ADJ, CERMET 50K
VGA1	1-227-231-11	RES, ADJ, CERMET 50K
VGA2	1-227-231-11	RES, ADJ, CERMET 50K
VHIG	1-227-231-11	RES, ADJ, CERMET 50K
VLOW	1-227-231-11	RES, ADJ, CERMET 50K
VPIC	1-227-231-11	RES, ADJ, CERMET 50K
VR1	1-225-525-11	RES, ADJ, CERMET 4.7K
VR18	1-225-525-11	RES, ADJ, CERMET 4.7K
VR19	1-225-525-11	RES, ADJ, CERMET 4.7K
VR20	1-227-230-11	RES, ADJ, CERMET 10K
VRGB	1-227-231-11	RES, ADJ, CERMET 50K
VSUB	1-227-231-11	RES, ADJ, CERMET 50K
VSUR	1-227-231-11	RES, ADJ, CERMET 50K
VTIN	1-227-231-11	RES, ADJ, CERMET 50K

< JUMPER RESISTOR >

W701	1-216-864-11	METAL CHIP	0	5%	1/10W
W703	1-216-864-11	METAL CHIP	0	5%	1/10W
W704	1-216-864-11	METAL CHIP	0	5%	1/10W
W705	1-216-864-11	METAL CHIP	0	5%	1/10W
W707	1-216-864-11	METAL CHIP	0	5%	1/10W
W708	1-216-864-11	METAL CHIP	0	5%	1/10W

Ref. No.	Part No.	Description			Remark
W710	1-216-864-11	METAL CHIP	0	5%	1/10W
W713	1-218-271-11	METAL CHIP	2K	5%	1/10W
W714	1-216-821-11	METAL CHIP	1K	5%	1/10W
W719	1-216-864-11	METAL CHIP	0	5%	1/10W
		< VIBRATOR >			
Y1	9-885-026-46	VIBRATOR, CRYSTAL (4.433619MHz)			
Y2	9-885-026-47	VIBRATOR, CRYSTAL (3.5795MHz)			
Y3	9-885-026-48	VIBRATOR, CRYSTAL (4MHz)			
		< DIODE >			
ZD1	8-719-069-55	DIODE UDZS-TE-17-5.6B			
ZD701	8-719-083-82	DIODE UDZS-TE-17-12B			
**********					
		E-PHONE BOARD			
		**********			
		< CONNECTOR >			
B6	9-885-026-64	CONNECTOR 3P			
		< JACK >			
J2	9-885-026-65	JACK, PHONE (🎧)			
J3	9-885-026-65	JACK, PHONE (🎧)			
		< RESISTOR >			
R76	1-216-813-11	METAL CHIP	220	5%	1/10W
R77	1-216-813-11	METAL CHIP	220	5%	1/10W
R78	1-216-813-11	METAL CHIP	220	5%	1/10W
R79	1-216-813-11	METAL CHIP	220	5%	1/10W
**********					
	9-885-025-13	MAIN BOARD, COMPLETE			
		**********			
	9-885-025-90	PLCC 44P 1109-44PTS-0 (for U505)			
		< CONNECTOR >			
B1	9-885-025-97	CONNECTOR 5P			
B2	9-885-025-92	CONNECTOR 2P			
B3	9-885-025-91	CONNECTOR 2P			
B4	9-885-025-91	CONNECTOR 2P			
B5	9-885-025-92	CONNECTOR 2P			
B6	9-885-025-91	CONNECTOR 2P			
B7	9-885-025-91	CONNECTOR 3P			
B8	9-885-025-96	CONNECTOR 6P			
B9	9-885-025-92	CONNECTOR 2P			
B10	9-885-025-92	CONNECTOR 2P			
B11	9-885-025-96	CONNECTOR 6P			
B12	9-885-025-95	CONNECTOR 4P			
B13	9-885-026-93	CONNECTOR 10P			
B14	9-885-025-93	CONNECTOR 30P			
		< CAPACITOR >			
C1	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C2	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3	1-127-820-11	CERAMIC CHIP	4.7uF		16V
C4	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C5	1-162-927-11	CERAMIC CHIP	100PF	5%	50V

Ref. No.	Part No.	Description			Remark
C6	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C7	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C8	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C9	9-885-025-84	ELECT	220uF		10V
C10	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C11	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C12	1-165-822-11	CERAMIC CHIP	1uF		25V
C13	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V
C14	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V
C15	1-165-822-11	CERAMIC CHIP	1uF		25V
C16	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C17	9-885-026-71	ELECT	220uF		16V
C18	1-126-197-11	ELECT	10uF	20%	50V
C19	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C20	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C21	1-126-197-11	ELECT	10uF	20%	50V
C22	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C23	1-126-942-61	ELECT	1000uF	20%	50V
C24	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C25	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C26	9-885-025-84	ELECT	220uF		10V
C27	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C28	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C29	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C30	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C31	1-165-822-11	CERAMIC CHIP	1uF		25V
C32	1-165-822-11	CERAMIC CHIP	1uF		25V
C33	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V
C34	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V
C35	1-165-822-11	CERAMIC CHIP	1uF		25V
C36	1-127-820-11	CERAMIC CHIP	4.7uF		16V
C39	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C40	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C41	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C43	1-128-992-11	ELECT	47uF	20%	25V
C48	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C52	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C58	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C59	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C61	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C62	1-128-992-11	ELECT	47uF	20%	25V
C63	1-128-992-11	ELECT	47uF	20%	25V
C66	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C67	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C68	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C69	1-127-820-11	CERAMIC CHIP	4.7uF		16V
C75	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C76	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C77	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C78	9-885-025-84	ELECT	220uF		10V
C79	9-885-025-84	ELECT	220uF		10V
C80	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C81	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C82	9-885-025-84	ELECT	220uF		10V
C83	1-127-820-11	CERAMIC CHIP	4.7uF		16V
C84	1-127-820-11	CERAMIC CHIP	4.7uF		16V
C85	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C86	1-162-927-11	CERAMIC CHIP	100PF	5%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C87	1-117-681-11	ELECT	100uF	20%	16V
C88	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C89	1-135-960-11	CERAMIC CHIP	10uF	10%	25V
C92	1-117-681-11	ELECT	100uF	20%	16V
C94	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C510	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C511	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C513	9-885-025-84	ELECT	220uF		10V
C515	1-128-992-11	ELECT	47uF	20%	25V
C522	1-162-970-21	CERAMIC CHIP	0.01uF	5%	25V
C530	1-126-197-11	ELECT	10uF	20%	50V
		< DIODE >			
D2	6-500-086-01	DIODE RLS4148TE-11			
D3	6-500-086-01	DIODE RLS4148TE-11			
D14	9-885-025-86	DIODE SM4004			
		< JUMPER RESISTOR >			
GMCU	1-216-864-11	METAL CHIP	0	5%	1/10W
		< COIL >			
L5	9-885-026-33	INDUCTOR CHIP	150uH		
L504	1-410-381-11	INDUCTOR CHIP	10uH		
		< TRANSISTOR >			
Q1	9-885-026-76	TRANSISTOR KN3904S			
Q2	8-729-032-34	TRANSISTOR 2SC4672-T101-Q			
Q3	9-885-025-58	TRANSISTOR BC857-A			
Q4	9-885-026-76	TRANSISTOR KN3904S			
Q5	9-885-026-76	TRANSISTOR KN3904S			
Q6	9-885-026-76	TRANSISTOR KN3904S			
Q7	9-885-026-76	TRANSISTOR KN3904S			
Q8	9-885-026-76	TRANSISTOR KN3904S			
Q9	8-729-030-31	TRANSISTOR 2SA1182-0(TE85R)			
Q10	8-729-032-34	TRANSISTOR 2SC4672-T101-Q			
Q11	8-729-901-00	TRANSISTOR DTC124EKA			
Q12	9-885-026-76	TRANSISTOR KN3904S			
Q13	9-885-026-76	TRANSISTOR KN3904S			
Q14	9-885-026-76	TRANSISTOR KN3904S			
Q15	9-885-026-76	TRANSISTOR KN3904S			
Q16	9-885-026-76	TRANSISTOR KN3904S			
Q17	9-885-025-58	TRANSISTOR BC857-A			
Q18	8-729-021-95	TRANSISTOR RN1441-A(TE85L)			
Q19	8-729-021-95	TRANSISTOR RN1441-A(TE85L)			
Q20	9-885-025-58	TRANSISTOR BC857-A			
Q21	9-885-026-76	TRANSISTOR KN3904S			
Q22	9-885-025-58	TRANSISTOR BC857-A			
Q23	9-885-025-58	TRANSISTOR BC857-A			
Q505	9-885-026-76	TRANSISTOR KN3904S			
		< RESISTOR >			
R1	1-216-809-11	METAL CHIP	100	5%	1/10W
R2	1-216-803-11	METAL CHIP	33	5%	1/10W
R3	1-218-735-11	METAL CHIP	62K	0.5%	1/16W
R4	1-218-723-11	METAL CHIP	20K	0.5%	1/16W
R5	1-216-841-11	METAL CHIP	47K	5%	1/10W
R6	1-216-841-11	METAL CHIP	47K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R7	1-216-845-11	METAL CHIP	100K	5%	1/10W
R8	1-218-285-11	METAL CHIP	75	5%	1/10W
R9	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R10	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R11	1-216-809-11	METAL CHIP	100	5%	1/10W
R12	1-216-815-11	METAL CHIP	330	5%	1/10W
R13	1-216-815-11	METAL CHIP	330	5%	1/10W
R14	1-216-815-11	METAL CHIP	330	5%	1/10W
R15	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R16	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R17	1-216-817-11	METAL CHIP	470	5%	1/10W
R18	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R19	1-216-839-11	METAL CHIP	33K	5%	1/10W
R20	1-216-849-11	METAL CHIP	220K	5%	1/10W
R21	1-216-839-11	METAL CHIP	33K	5%	1/10W
R22	1-216-833-11	METAL CHIP	10K	5%	1/10W
R23	1-218-723-11	METAL CHIP	20K	0.5%	1/16W
R24	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R25	1-216-833-11	METAL CHIP	10K	5%	1/10W
R27	1-216-833-11	METAL CHIP	10K	5%	1/10W
R28	1-216-811-11	METAL CHIP	150	5%	1/10W
R29	1-216-834-11	METAL CHIP	12K	5%	1/10W
R30	1-216-821-11	METAL CHIP	1K	5%	1/10W
R31	1-216-845-11	METAL CHIP	100K	5%	1/10W
R32	1-218-751-11	METAL CHIP	300K	5%	1/10W
R33	1-216-835-11	METAL CHIP	15K	5%	1/10W
R34	1-216-845-11	METAL CHIP	100K	5%	1/10W
R35	1-216-821-11	METAL CHIP	1K	5%	1/10W
R37	1-216-817-11	METAL CHIP	470	5%	1/10W
R38	1-216-821-11	METAL CHIP	1K	5%	1/10W
R39	1-216-833-11	METAL CHIP	10K	5%	1/10W
R40	1-216-833-11	METAL CHIP	10K	5%	1/10W
R41	1-218-751-11	METAL CHIP	300K	5%	1/10W
R42	1-216-833-11	METAL CHIP	10K	5%	1/10W
R43	1-216-809-11	METAL CHIP	100	5%	1/10W
R44	1-216-819-11	METAL CHIP	680	5%	1/10W
R45	1-216-833-11	METAL CHIP	10K	5%	1/10W
R46	1-216-809-11	METAL CHIP	100	5%	1/10W
R47	1-216-833-11	METAL CHIP	10K	5%	1/10W
R48	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R49	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R50	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R51	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R52	1-216-843-11	METAL CHIP	68K	5%	1/10W
R53	1-216-809-11	METAL CHIP	100	5%	1/10W
R54	1-216-809-11	METAL CHIP	100	5%	1/10W
R55	1-216-833-11	METAL CHIP	10K	5%	1/10W
R56	1-216-837-11	METAL CHIP	22K	5%	1/10W
R57	1-216-833-11	METAL CHIP	10K	5%	1/10W
R58	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R59	1-216-833-11	METAL CHIP	10K	5%	1/10W
R60	1-216-833-11	METAL CHIP	10K	5%	1/10W
R62	1-216-833-11	METAL CHIP	10K	5%	1/10W
R63	1-216-833-11	METAL CHIP	10K	5%	1/10W
R64	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R65	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R66	1-216-843-11	METAL CHIP	68K	5%	1/10W
R67	1-216-845-11	METAL CHIP	100K	5%	1/10W

MAIN | **MICRO SW** | **OPEN SW** | **POWER SW**

Ref. No.	Part No.	Description			Remark
R69	1-216-841-11	METAL CHIP	47K	5%	1/10W
R70	1-216-841-11	METAL CHIP	47K	5%	1/10W
R71	1-216-841-11	METAL CHIP	47K	5%	1/10W
R72	1-218-807-11	METAL CHIP	68	5%	1/10W
R73	1-218-807-11	METAL CHIP	68	5%	1/10W
R74	1-216-841-11	METAL CHIP	47K	5%	1/10W
R86	1-216-833-11	METAL CHIP	10K	5%	1/10W
R91	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R94	1-216-821-11	METAL CHIP	1K	5%	1/10W
R95	1-216-821-11	METAL CHIP	1K	5%	1/10W
R99	1-216-809-11	METAL CHIP	100	5%	1/10W
R101	1-216-833-11	METAL CHIP	10K	5%	1/10W
R102	1-218-807-11	METAL CHIP	68	5%	1/10W
R103	1-216-797-11	METAL CHIP	10	5%	1/10W
R104	1-216-833-11	METAL CHIP	10K	5%	1/10W
R105	1-216-797-11	METAL CHIP	10	5%	1/10W
R106	1-216-811-11	METAL CHIP	150	5%	1/10W
R107	1-216-811-11	METAL CHIP	150	5%	1/10W
R108	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R109	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R110	1-216-810-11	METAL CHIP	120	5%	1/10W
R111	1-216-813-11	METAL CHIP	220	5%	1/10W
R112	1-216-813-11	METAL CHIP	220	5%	1/10W
R113	1-218-285-11	METAL CHIP	75	5%	1/10W
R122	1-216-809-11	METAL CHIP	100	5%	1/10W
R123	1-216-833-11	METAL CHIP	10K	5%	1/10W
R124	1-216-810-11	METAL CHIP	120	5%	1/10W
R125	1-218-807-11	METAL CHIP	68	5%	1/10W
R126	1-216-864-11	METAL CHIP	0	5%	1/10W
R127	1-216-864-11	METAL CHIP	0	5%	1/10W
R128	1-216-837-11	METAL CHIP	22K	5%	1/10W
R129	1-216-837-11	METAL CHIP	22K	5%	1/10W
R131	1-216-821-11	METAL CHIP	1K	5%	1/10W
R132	1-216-821-11	METAL CHIP	1K	5%	1/10W
R441	1-216-809-11	METAL CHIP	100	5%	1/10W
R508	1-216-809-11	METAL CHIP	100	5%	1/10W
R509	1-216-809-11	METAL CHIP	100	5%	1/10W
R525	1-216-845-11	METAL CHIP	100K	5%	1/10W
R526	1-216-809-11	METAL CHIP	100	5%	1/10W
R530	1-216-845-11	METAL CHIP	100K	5%	1/10W
R539	1-216-833-11	METAL CHIP	10K	5%	1/10W
R546	1-216-845-11	METAL CHIP	100K	5%	1/10W
R560	1-216-824-11	METAL CHIP	1.8K	5%	1/10W
R561	1-218-292-11	METAL CHIP	20K	5%	1/10W
R571	1-216-833-11	METAL CHIP	10K	5%	1/10W
R572	1-216-833-11	METAL CHIP	10K	5%	1/10W
R574	1-216-845-11	METAL CHIP	100K	5%	1/10W
		< SWITCH >			
SW1	9-885-025-85	SWITCH, SLIDE (POWER SELECT A/B)			
		< IC >			
U1	6-701-919-01	IC PT2257-S			
U5	9-885-025-87	IC BA17810FP			
U6	8-729-023-16	IC SI9953DY-T1			
U7	8-729-023-16	IC SI9953DY-T1			
U8	8-759-070-68	IC BA6247FP-Y			

Ref. No.	Part No.	Description	Remark
U11	8-759-914-05	IC BA4558F-T1	
U12	8-759-345-28	IC ST24C02FM6TR	
U16	8-759-710-62	IC NJM2246M	
U18	8-759-710-07	IC NJM2234	
U19	8-759-710-07	IC NJM2234	
U20	8-759-265-99	IC NJM2073M(TE2)	
U21	8-759-473-16	IC BA17808FP-E2	
U501	9-885-026-77	IC KIA78L05F	
U505	9-885-025-88	IC PIC16C77-04/L	
		< CERMET RESISTOR >	
VR4	1-225-681-11	RES, ADJ, CERMET 20K	
VR5	1-225-681-11	RES, ADJ, CERMET 20K	
		< VIBRATOR >	
Y4	9-885-025-89	VIBRATOR, CRYSTAL (4MHz)	
		< DIODE >	
ZD1	8-719-069-55	DIODE UDZS-TE-17-5.6B	
ZD2	8-719-069-55	DIODE UDZS-TE-17-5.6B	
ZD3	8-719-069-55	DIODE UDZS-TE-17-5.6B	
ZD4	8-719-069-55	DIODE UDZS-TE-17-5.6B	
ZD5	8-719-069-55	DIODE UDZS-TE-17-5.6B	
ZD6	8-719-069-55	DIODE UDZS-TE-17-5.6B	
ZD7	8-719-069-55	DIODE UDZS-TE-17-5.6B	
ZD8	8-719-083-57	DIODE UDZS-TE-17-3.6B	
**********			
		MICRO SW BOARD	
		**********	
		< CONNECTOR >	
J1	9-885-026-58	CONNECTOR 2P	
		< SWITCH >	
SW1	9-885-026-57	SWITCH, MICRO (PANEL CLOSE LIMIT)	
**********			
		OPEN SW BOARD	
		**********	
		< CONNECTOR >	
B2	9-885-026-62	CONNECTOR 2P	
		< SWITCH >	
S1	9-885-026-61	SWITCH, MICRO (PANEL OPEN LIMIT)	
**********			
		POWER SW BOARD	
		**********	
		< CONNECTOR >	
B33	9-885-026-55	CONNECTOR 5P	
		< CAPACITOR >	
C10	9-885-025-66	CERAMIC CHIP 10uF	25V

POWER SW

Ref. No.	Part No.	Description			Remark
		< IC >			
IR10	8-748-030-06	INFRARED SBX8030-F			
		< TRANSISTOR >			
Q10	9-885-026-54	TRANSISTOR BC848B			
		< RESISTOR >			
R2	1-216-864-11	METAL CHIP	0	5%	1/10W
R10	1-216-809-11	METAL CHIP	100	5%	1/10W
R11	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R12	1-216-837-11	METAL CHIP	22K	5%	1/10W
		< SWITCH >			
S1	9-885-026-53	SWITCH, TACTILE (OPEN/CLOSE)			
**********					
		MISCELLANEOUS			
		**********			
7	9-885-025-62	CORD ASSY (DIN)			
9	9-885-025-61	CORD ASSY (MINI)			
53	9-885-025-72	LEAD (WITH CONNECTOR) 3P (L=120mm)			
56	9-885-025-69	LEAD (WITH CONNECTOR) 2P (L=120mm)			
62	9-885-025-77	RELAY			
64	9-885-025-68	LEAD (WITH CONNECTOR) 5P (L=120mm)			
102	9-885-025-76	WIRE (FLAT TYPE) (30 CORE) (L=120mm)			
113	9-885-025-70	LEAD (WITH CONNECTOR) 2P (L=160mm)			
114	9-885-025-71	LEAD (WITH CONNECTOR) 2P (L=180mm)			
119	9-885-025-60	WIRE, EARTH (L=50mm)			
⚠F1	1-532-414-11	FUSE (1A/250V)			
LCD1	9-885-025-20	DISPLAY PANEL, LIQUID CRYSTAL (TFT) (7in. WIDE)			
M1	9-885-026-24	MOTOR (OPEN/CLOSE)			
**********					
		ACCESSORIES			
		**********			
	1-477-472-11	REMOTE COMMANDER (RM-X123)			
	1-477-473-11	HIDEAWAY UNIT (XA-117)			
	1-824-545-11	CORD, CONNECTION (STEREO MINI) (5m)			
	1-824-546-11	CORD, CONNECTION (EXTENSION) (5m)			
	1-824-547-11	CORD, CONNECTION (DC-DC) (3m)			
	1-824-548-11	CORD, CONNECTION (POWER) (including F901,F902)			
	3-242-078-01	MANUAL, INSTRUCTION (ENGLISH,FRENCH, SPANISH) (US,CND)			
	3-242-078-21	MANUAL, INSTRUCTION (ENGLISH, TRADITIONAL CHINESE) (E)			
	3-242-078-31	MANUAL, INSTRUCTION (ENGLISH,GERMAN, FRENCH,ITALIAN,DUTCH) (AEP,UK)			
	3-245-454-01	BRACKET, FITTING			
	3-245-455-01	CLAMP, CORD			
	9-885-026-85	LID, BATTERY CASE (for RM-X123)			
	X-3382-494-1	SCREW ASSY			
⚠F901	1-532-421-11	FUSE (5A/250V)			
⚠F902	1-532-414-11	FUSE (1A/250V)			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

XVM-R75

SONY

SERVICE MANUAL

Ver 1.1 2002. 08

US Model
Canadian Model
AEP Model
UK Model
E Model

SUPPLEMENT-1

File this supplement with the service manual.

Subject : Addition of Electrical Adjustments.
Addition of Block Diagrams.
Addition of IC Block Diagrams.

TABLE OF CONTENTS

1-1. Equipment Used 2
1-2. Connection of Equipment 2
1-3. 5V Adjustment 2
1-4. Frequency Adjustment 2
1-5. PLL Free Run Frequency Adjustment 2
1-6. Brightness Temporary Level Adjustment 3
1-7. Sharpness Adjustment 3
1-8. Contrast Adjustment 3
1-9. Color Adjustment 3
1-10. Hue Adjustment 3
1-11. γ 2 Adjustment 3
1-12. γ 0 Adjustment 3
1-13. RGB Gain (1) Adjustment 3
1-14. RGB Gain (2) Adjustment 3
1-15. B and R Level Adjustments 3
1-16. VCOM AMP Adjustment 3
1-17. VCOM Bias Adjustment 4
1-18. Blank Level Adjustment 4
2-1. Block Diagram –Main Section– 5
2-2. Block Diagram –B/L (Display) Section– 6
2-3. Block Diagram –RGB (Display) Section– 7
2-4. Block Diagram –LCD (Display) Section– 8
2-5. IC Block Diagrams 9

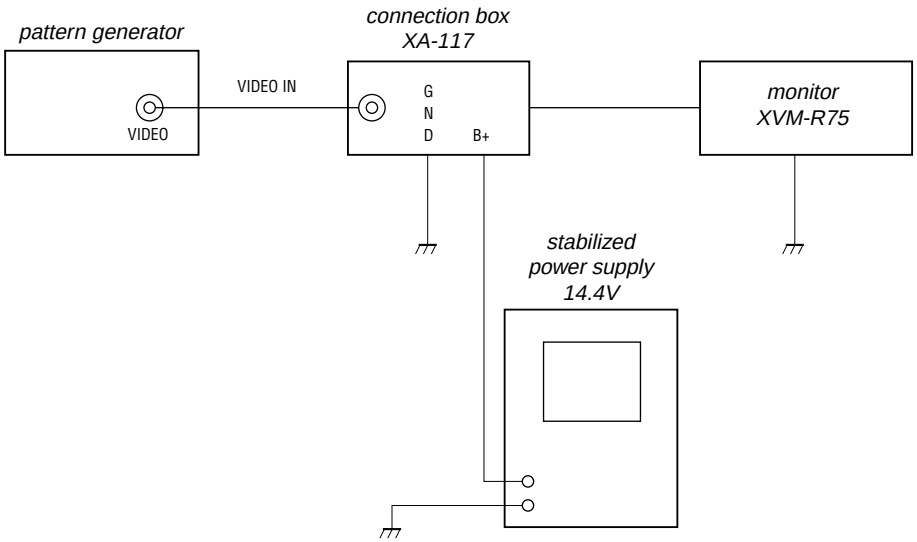
When measuring, the ground should be connected to the ground (pin 15 of connector B1) in the display board unless otherwise specified.

1-1. EQUIPMENT USED

The following measuring equipment are used for these electrical adjustments:

- Oscilloscope
- NTSC pattern generator
- Stabilized power supply
- Digital voltmeter
- Frequency counter
- Connection box (XA-117)

1-2. CONNECTION OF EQUIPMENT



1-3. 5V ADJUSTMENT

1. Display gray scale on the monitor screen.
2. Connect digital voltmeter to the C10 position of L19.
3. Adjust VR1 so that the reading on the voltmeter stands at the specified value.

Specified value: 5.00 ± 0.05 V

1-4. FREQUENCY ADJUSTMENT

This frequency adjustment on the DC-DC converter is only performed if there is switching noise mixed on the screen.

Adjust RV20 to a position in which no noise appears on the screen.

1-5. PLL FREE RUN FREQUENCY ADJUSTMENT

1. Make the input signal no signal.
2. Connect frequency counter to pin ㊺ of IC U705.
3. Adjust the semi-fixed resistor VFRER until the frequency is at 15895 ± 20 Hz.

1-6. BRIGHTNESS TEMPORARY LEVEL ADJUSTMENT

1. Display gray scale on the monitor screen.
2. Connect digital multimeter to pin ㉙ of IC U600.
3. Adjust the semi-fixed VBRI so that the reading on the digital voltmeter stands at the specified value.

Specified value: 2.06 ± 0.04 V

1-7. SHARPNESS ADJUSTMENT

1. Display gray scale on the monitor screen.
2. Connect digital voltmeter to pin ㊽ of IC U600.
3. Adjust the semi-fixed VPIC so that the reading on the voltmeter stands at the specified value.

Specified value: 2.59 ± 0.04 V

1-8. CONTRAST ADJUSTMENT

1. Display gray scale on the monitor screen.
2. Connect digital voltmeter to pin ② of IC U600.
3. Adjust the semi-fixed VCNT so that the reading on the voltmeter stands at the specified value.

Specified value: 1.25 ± 0.04 V

1-9. COLOR ADJUSTMENT

1. Display gray scale on the monitor screen.
2. Connect digital voltmeter to pin ⑥ of IC U600.
3. Adjust the semi-fixed VCOL so that the reading on the voltmeter stands at the specified value.

Specified value: 2.58 ± 0.04 V

1-10. HUE ADJUSTMENT

1. Display gray scale on the monitor screen.
2. Connect digital voltmeter to pin ⑬ of IC U600.
3. Adjust the semi-fixed VTIN so that the reading on the voltmeter is at 3.18 ± 0.04 V.

1-11. γ 2 ADJUSTMENT

1. Display gray scale on the monitor screen.
2. Connect digital voltmeter to pin ㉖ of IC U600.
3. Adjust the semi-fixed resistor VGA2 so that the reading on the voltmeter is at 2.43 ± 0.04 V.

1-12. γ 0 ADJUSTMENT

1. Display gray scale on the monitor screen.
2. Connect digital voltmeter to pin ㉗ of IC U600.
3. Adjust the semi-fixed resistor VGA1 so that the reading on the voltmeter is at 1.40 ± 0.04 V.

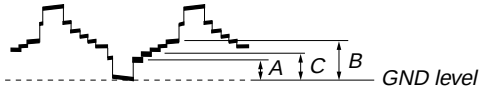
1-13. RGB GAIN (1) ADJUSTMENT

1. Display gray scale on the monitor screen.
2. Connect digital voltmeter to pin ㉘ of IC U600.
3. Adjust VRGB so that the reading on the voltmeter is at 2.05 ± 0.04 V.

1-14. RGB GAIN (2) ADJUSTMENT

1. Display 5-step gray scale on the monitor screen.
2. Connect oscilloscope to pin ㉑ of IC U600.
3. Adjust the semi-fixed resistor VRGB so that the level of the signal on the fifth step from the above stands at the specified value A.

Specified value A: 0.58 ± 0.04 V



4. Adjust the semi-fixed VGA1 so that the level of the signal on the first step from the above stands at the specified value B.

Specified value B: 3.25 ± 0.04 V

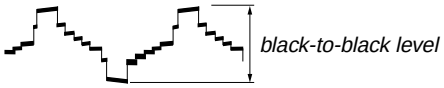
5. Adjust the semi-fixed VBRI so that the level of the signal on the fourth step from the above stands at the specified value C.

Specified value C: 1.47 ± 0.04 V

6. Repeat items 3 to 5 and adjust the levels of the signals on the fifth, first and fourth steps to their specified values.

1-15. B AND R LEVEL ADJUSTMENTS

1. Display 5-step gray scale on the monitor screen.
2. Connect oscilloscope to pin ㉑ specified as G_OUT of IC U600.
3. Measure the black-to-black level.
4. Connect oscilloscope to pin ㉔ specified as B_OUT of IC U600.
5. Adjust VSUB so that the back-to-black level is equal to the level measured in item 3.
6. Connect oscilloscope to pin ⑲ specified as R_OUT of IC U600.

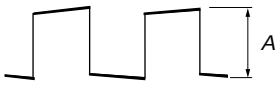


7. Adjust the semi-fixed resistor VSUR so that the back-to-black level is equal to the level measured in item 3.

1-16. VCOM AMP ADJUSTMENT

1. Display gray scale on the monitor screen.
2. Connect oscilloscope to the Q701 emitter.
3. Adjust the semi-fixed resistor VCOM until the level A of the output waveform stand at the specified value.

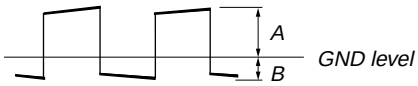
Specified value: 7.0 ± 0.04 V



1-17. VCOM BIAS ADJUSTMENT

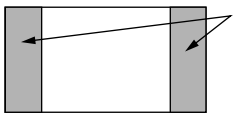
1. Display gray scale on the monitor screen.
2. Connect oscilloscope to the Q15 No. 2.
3. Adjust the semi-fixed resistor VCDC until the levels A and B of the output waveform stand at their respective specified values.

Specified value: A: 5.3 ± 0.04 V
B: 1.7 ± 0.04 V



1-18. BLANK LEVEL ADJUSTMENT

1. Display gray scale on the monitor screen. Set the screen to the Normal mode.

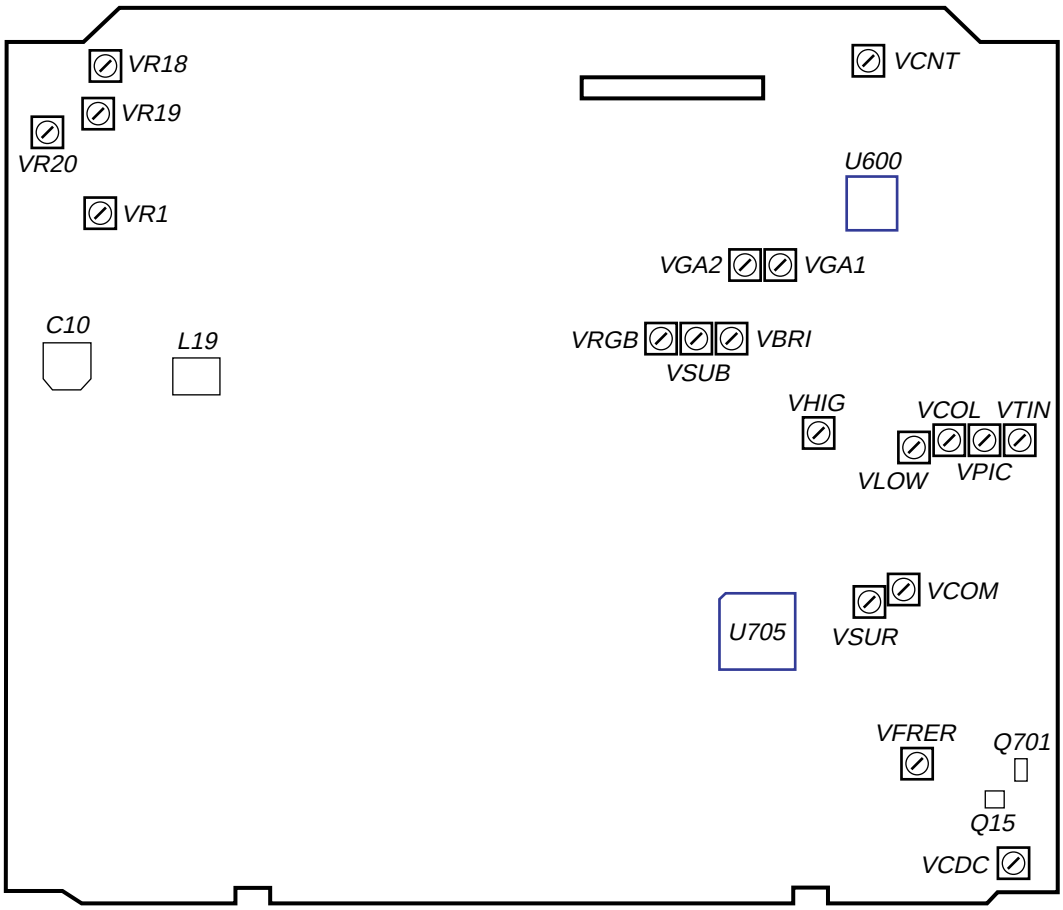


If not black on the right and left ends, adjust VHIG and VLOW so that black vertical bands appear on the right and left ends of the screen.

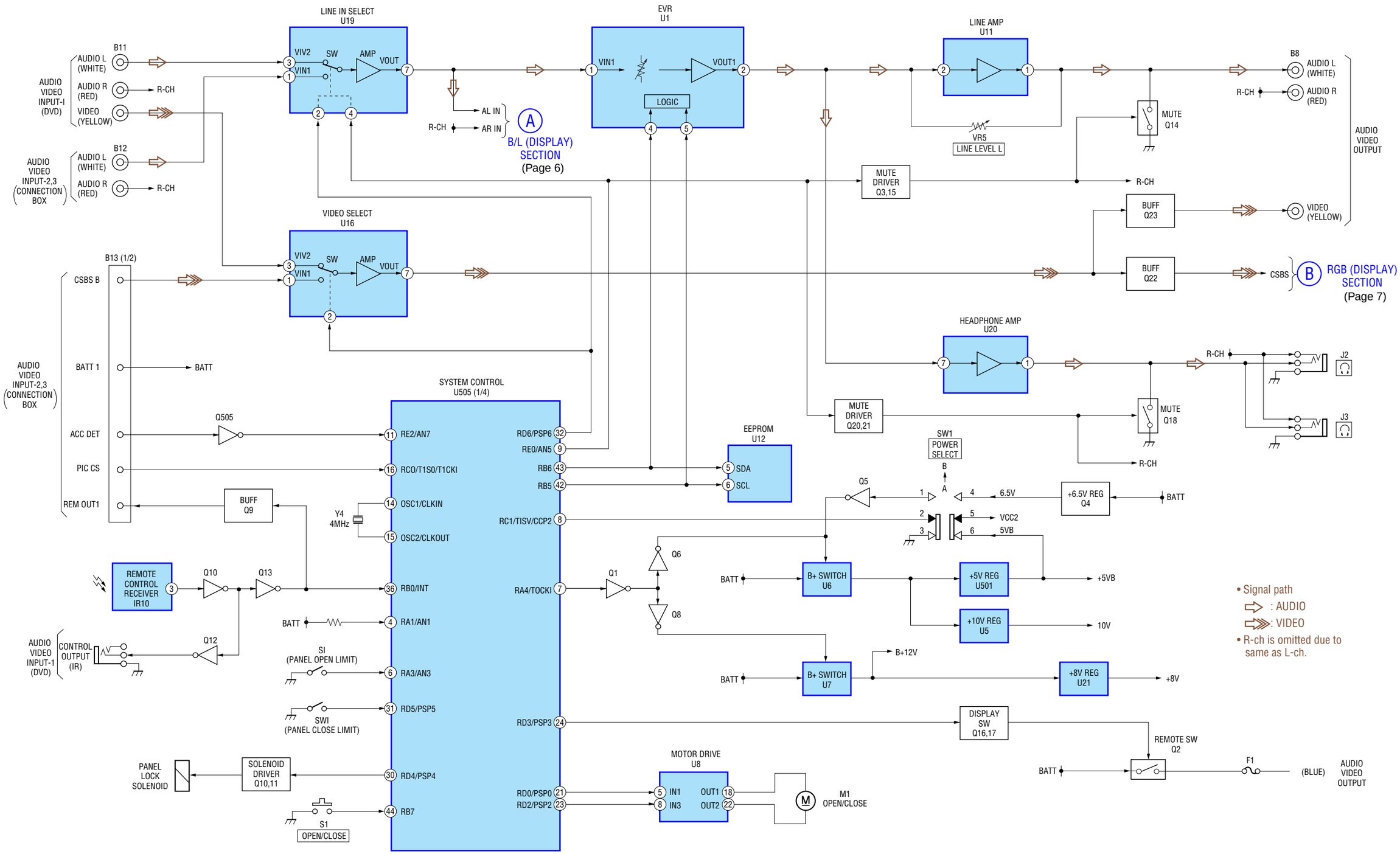
2. Connect digital voltmeter to pin ⑧ of IC U602.
3. Adjust the semi-fixed resistor VHIG so that the reading on the digital voltmeter is at less than 0.5 V.
4. Connect digital voltmeter to pin ② of IC U602.
5. Adjust the semi-fixed resistor VLOW so that the reading on the digital voltmeter is at more than 6.0 V.

Adjustment Location:

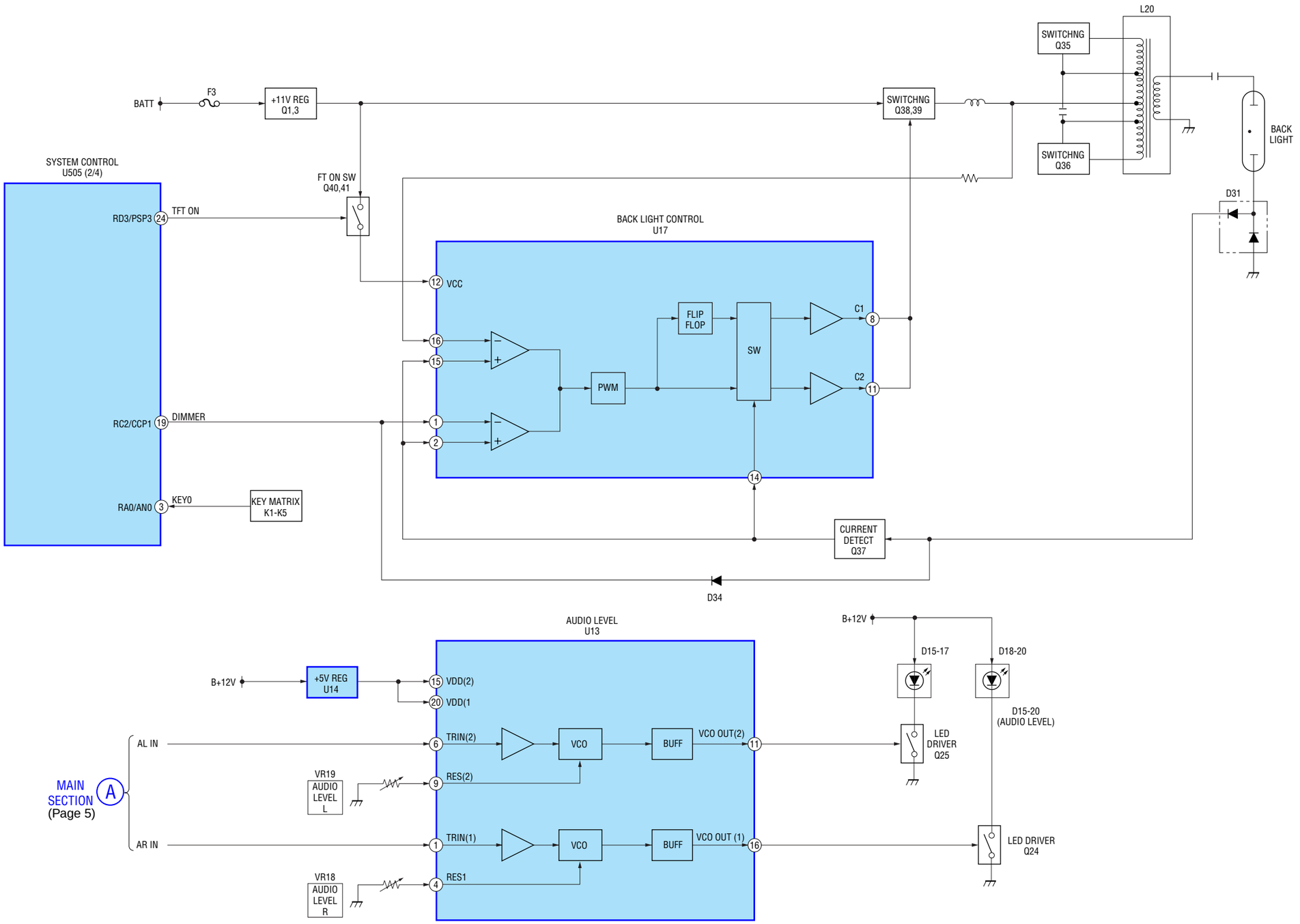
– DISPLAY BOARD – (CONDUCTOR SIDE)



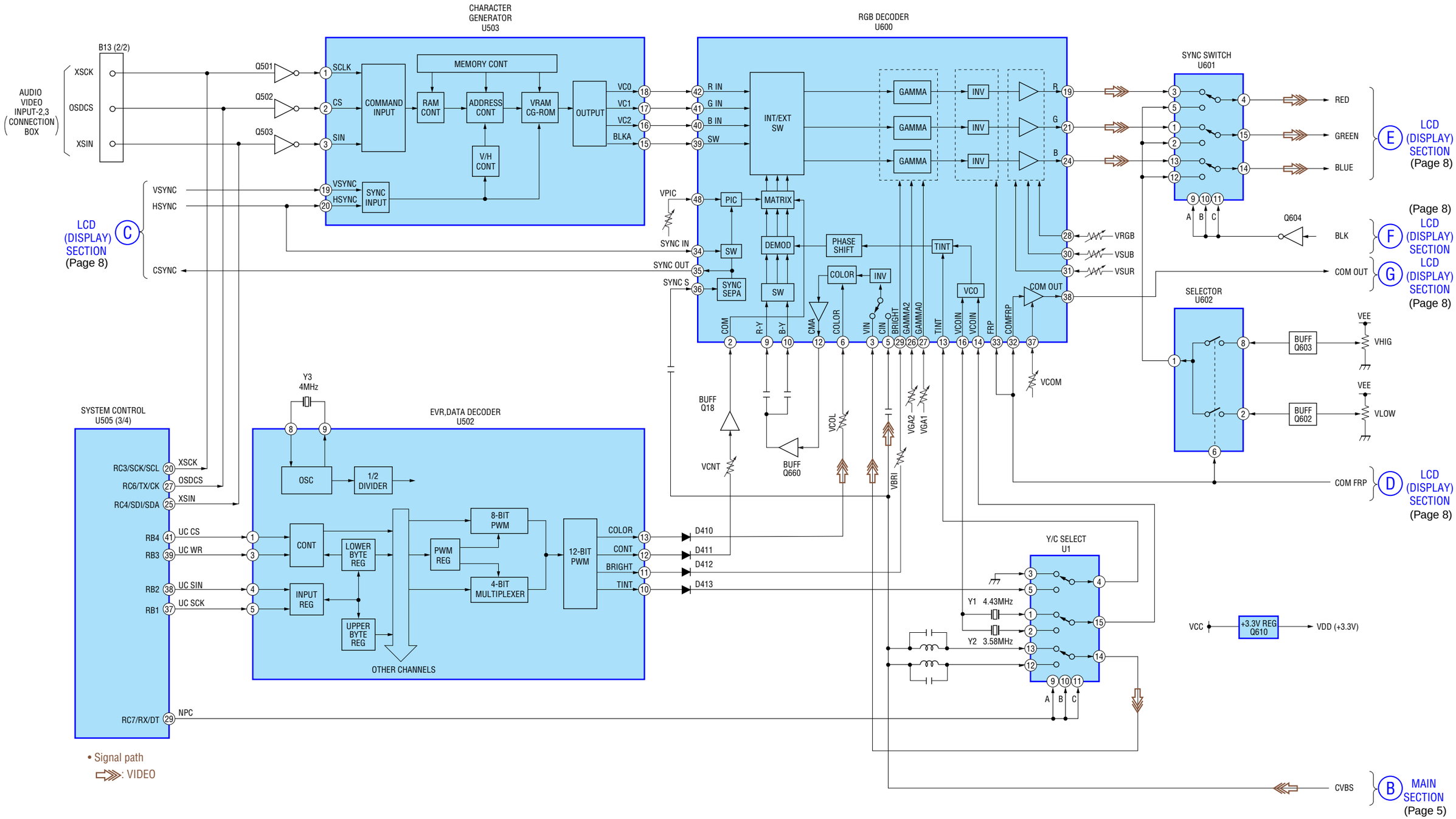
2-1. BLOCK DIAGRAM — MAIN SECTION —



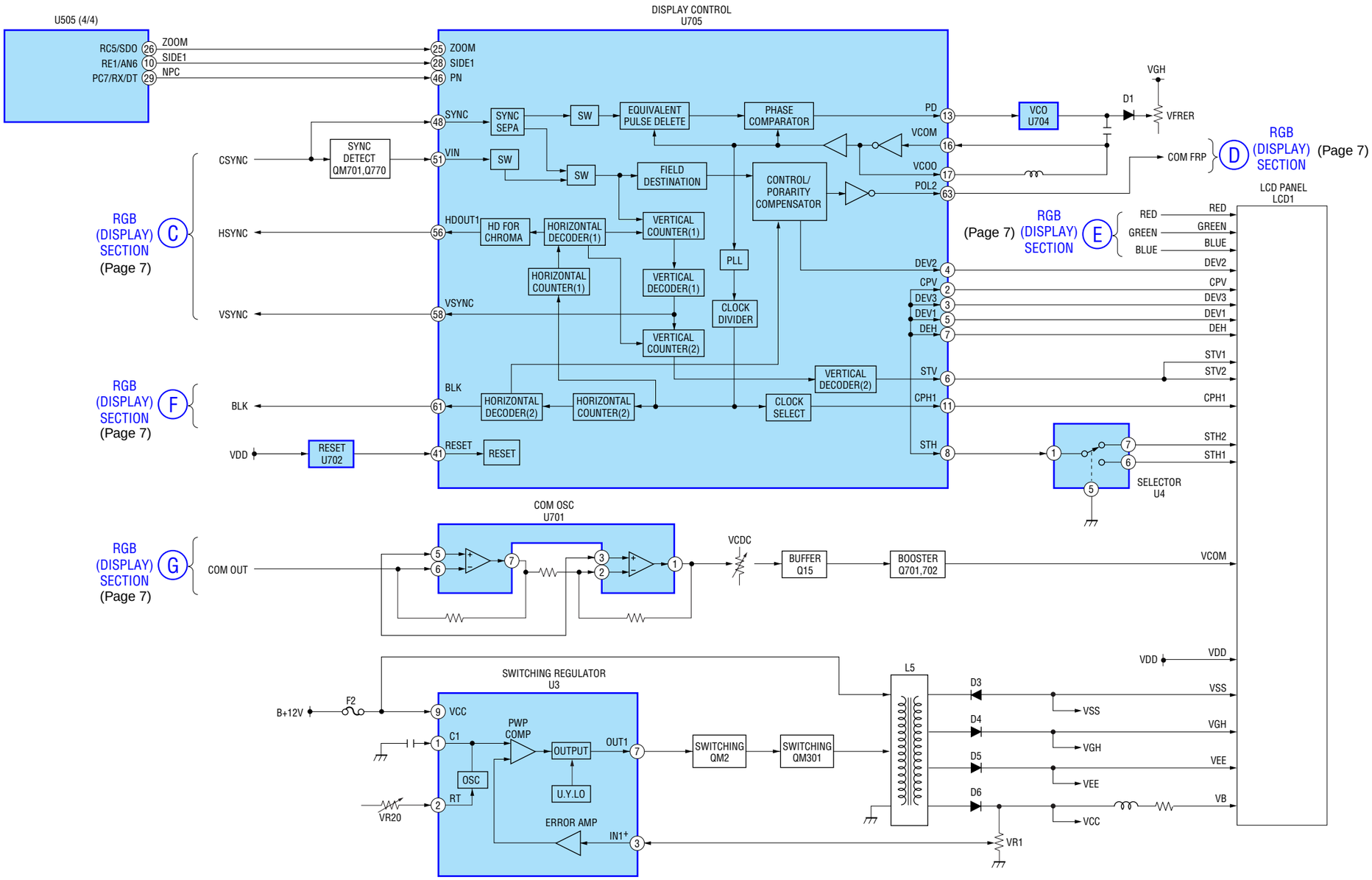
2-2. BLOCK DIAGRAM — B/L (DISPLAY) SECTION —



2-3. BLOCK DIAGRAM — RGB (DISPLAY) SECTION —

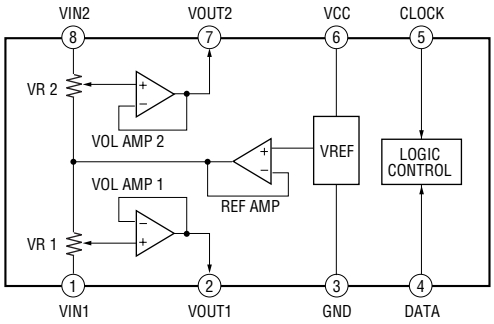


2-4. BLOCK DIAGRAM — LCD (DISPLAY) SECTION —

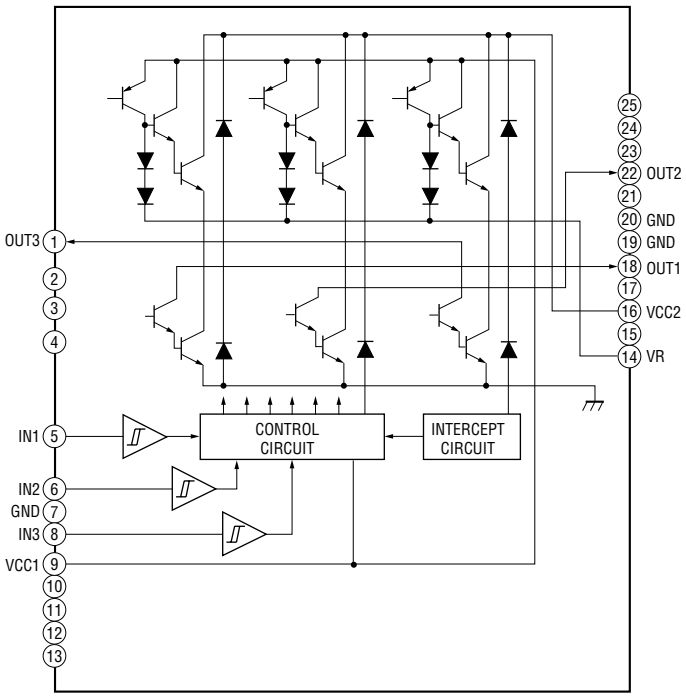


2-5. IC BLOCK DIAGRAMS

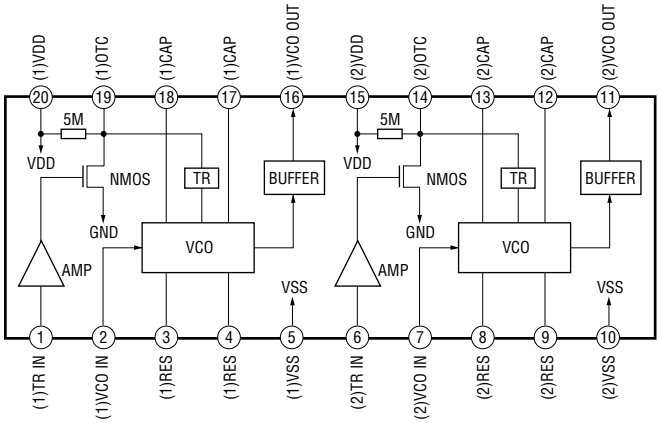
U1 PT2257-S (MAIN Board) (1/2)



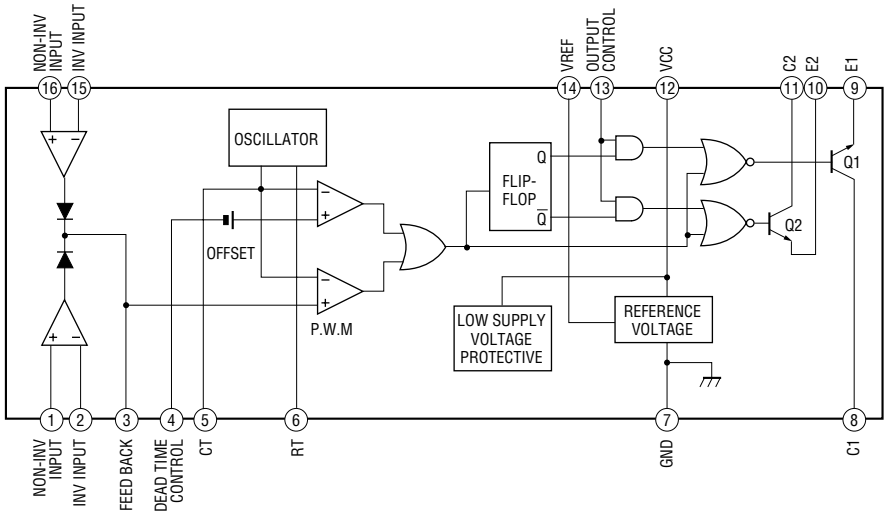
U8 BA6247FP-Y (MAIN Board) (2/2)



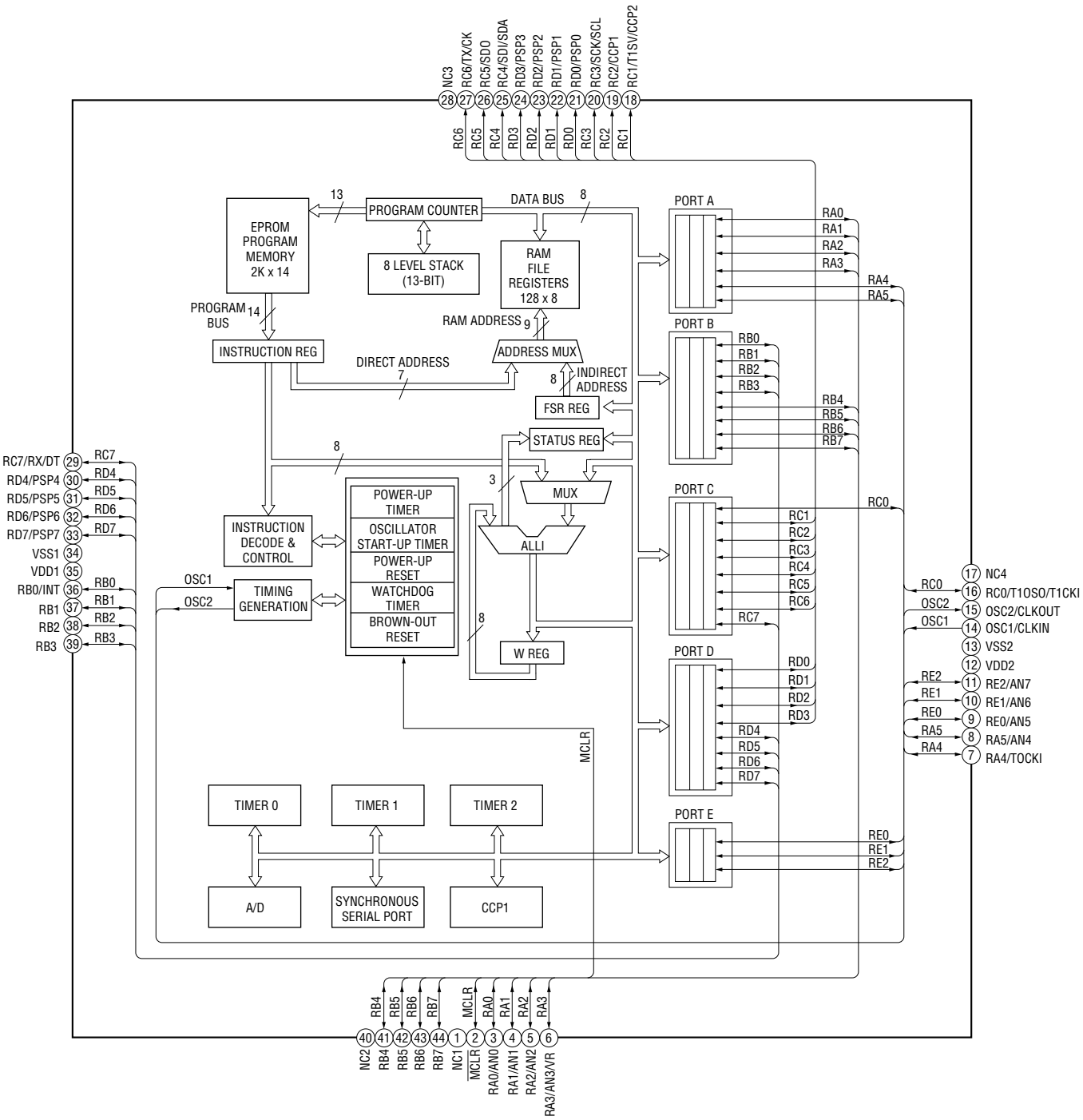
U13 HS-9913-ST (DISPLAY Board) (1/3)



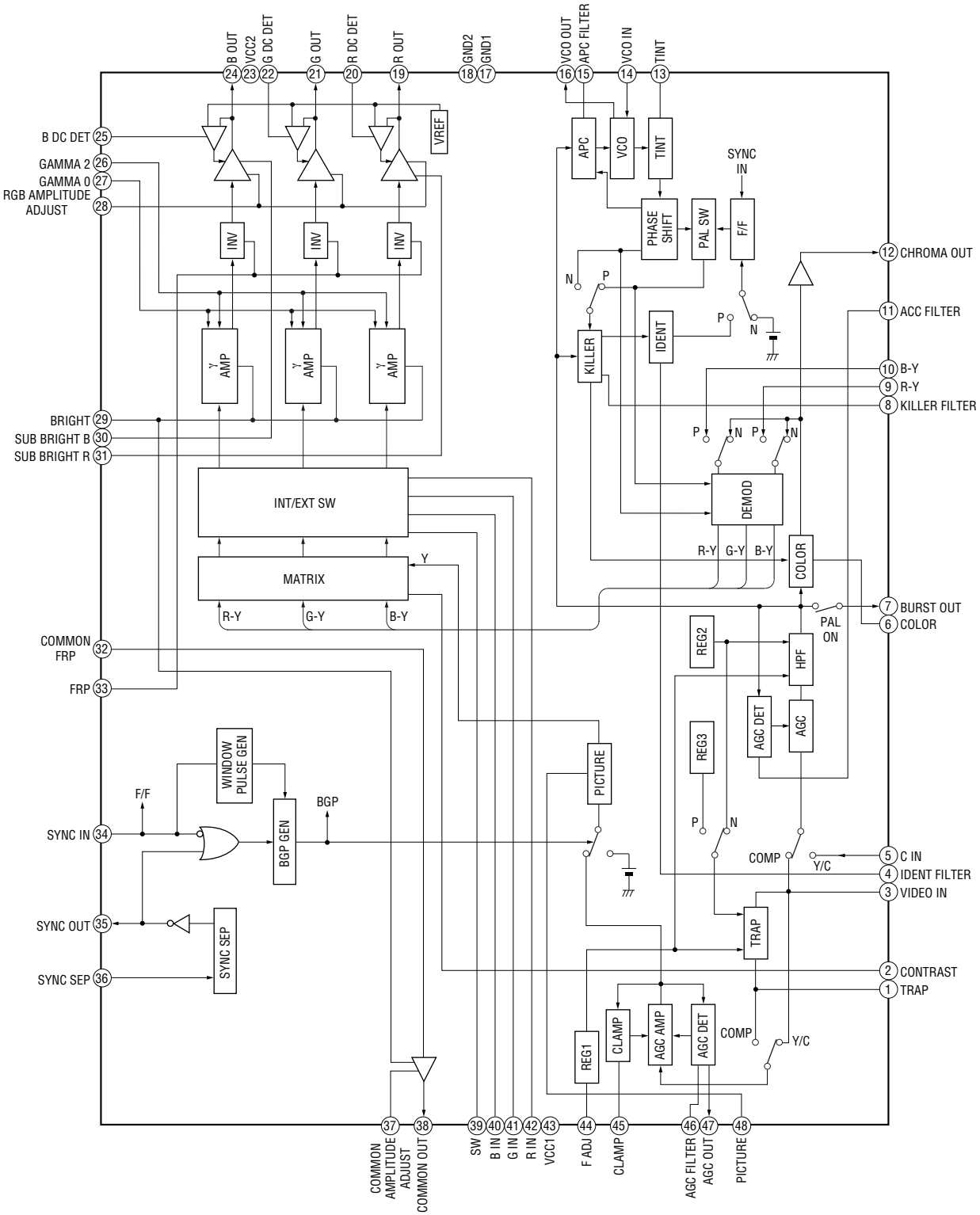
U17 KIA494AF (DISPLAY Board) (1/3)



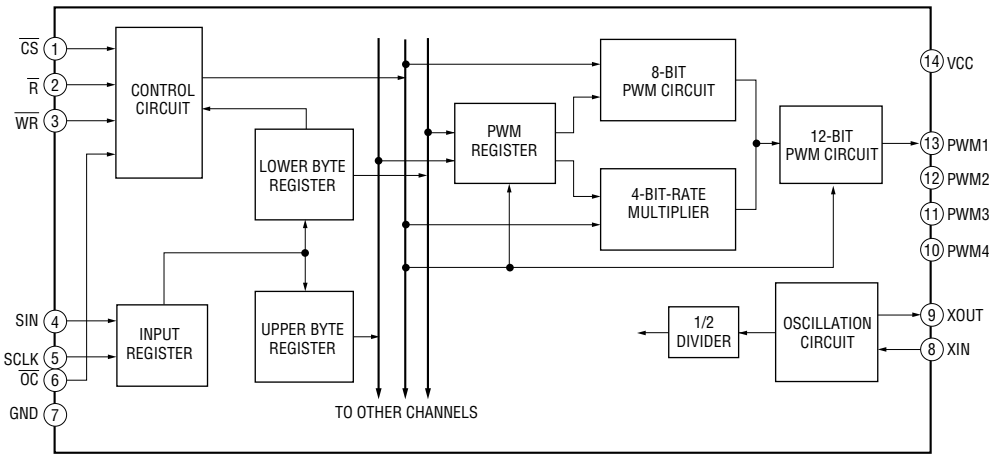
U505 PIC16C77-04/L (MAIN Board) (2/2)



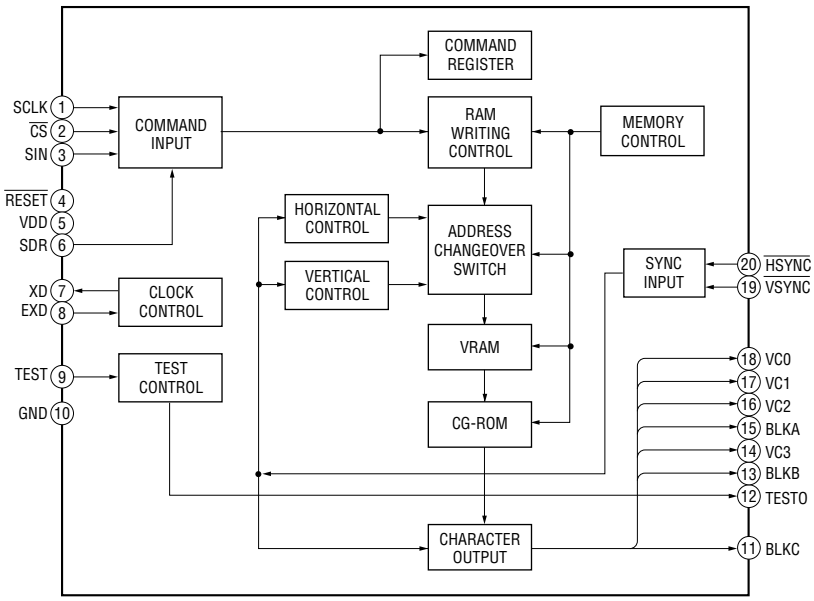
U600 IR3Y29B4 (DISPLAY Board) (2/3)



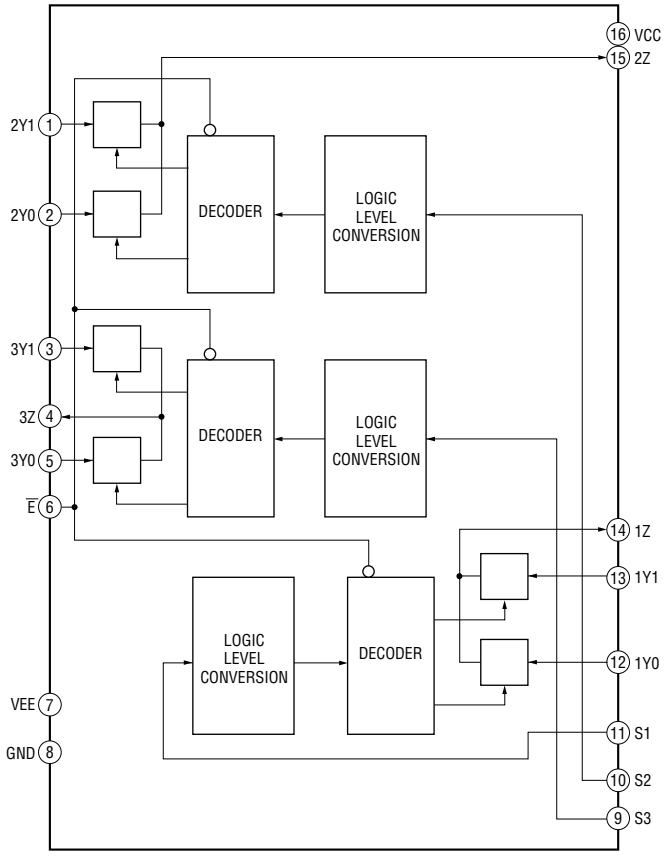
U502 M66242FP (DISPLAY Board) (2/3)



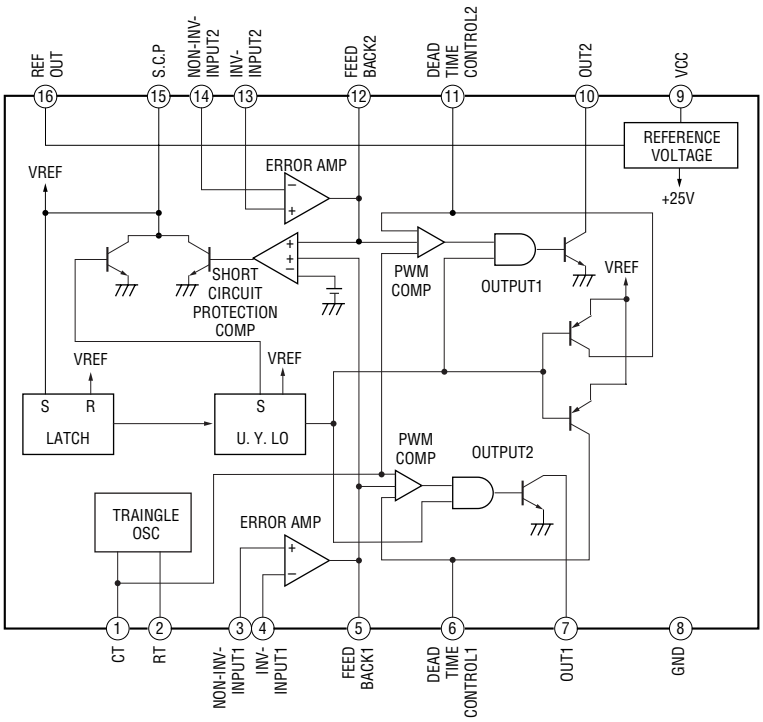
U503 MB90097 (DISPLAY Board) (2/3)



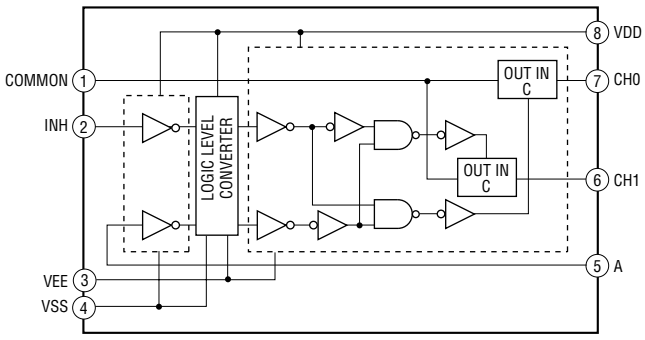
U1, 601 74HC4053D (DISPLAY Board) (2/3)



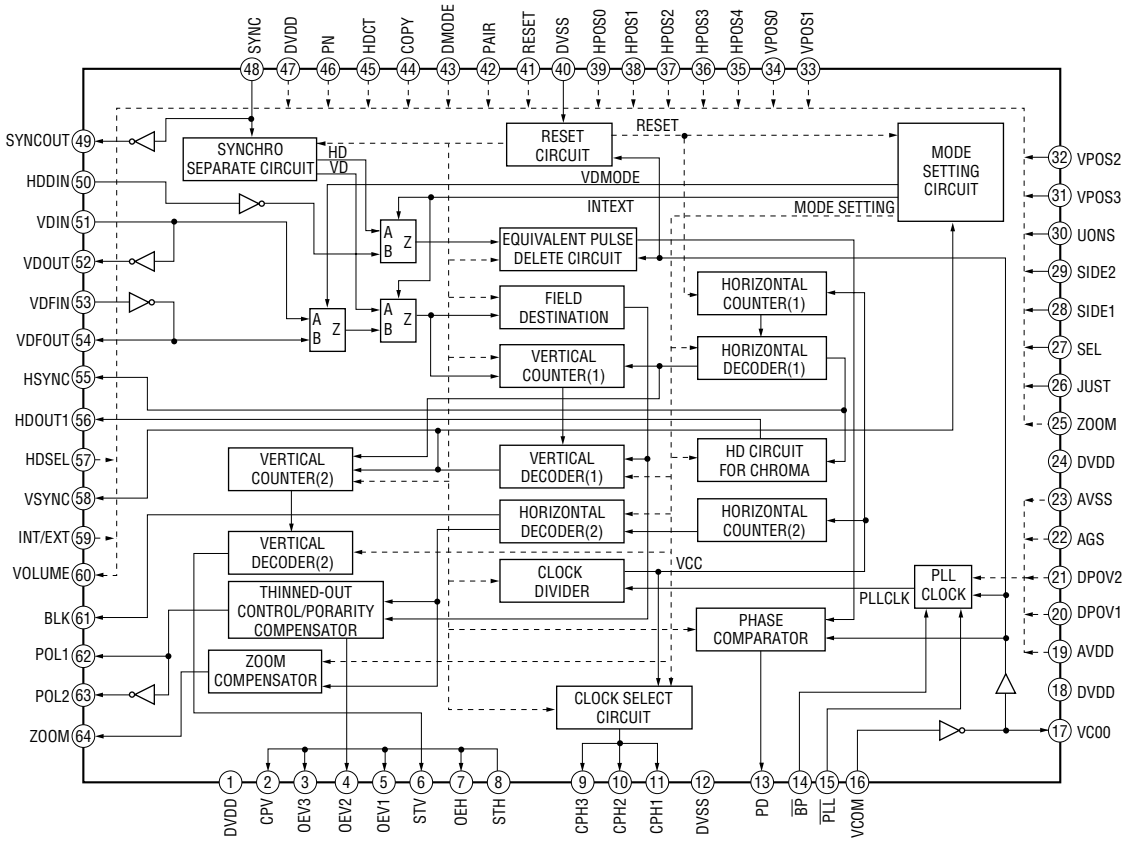
U3 TL1451ACPWR (DISPLAY Board) (3/3)



U4 TC4W53F (DISPLAY Board) (3/3)



U705 TC203G04AF-0011 (DISPLAY Board) (3/3)



MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2002. 06	New
1.1	2002. 08	Addition of Electrical Adjustments, Block Diagrams and IC Block Diagrams.